



# MAGAZINE

PRICE TWOPENCE

JUNE 1952





The *I.C.I. Magazine* is published for the interest of all who work in I.C.I., and its contents are contributed largely by people in I.C.I. It is edited by Richard Keane and printed at The Kynoch Press, Birmingham, and is published every month by Imperial Chemical Industries Limited, 26 Dover Street, London, W.1. Telephone: REGent 5067-8. The editor is glad to consider articles for publication, and payment will be made for those accepted.

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FRONT COVER: *An artist's impression of Hindlow kilns on a gloomy winter's day. Hindlow kilns are fed with lime-stone from Hindlow quarry, one of the three Lime Division quarries in the Buxton area.*

OUR CONTRIBUTORS

S. P. CHAMBERS joined the board of I.C.I. in August 1947 and became Finance Director in the following year. He was chief of the Finance Division of the Control Commission for Germany (British element) 1945-7 and formerly a member of the Board of Inland Revenue. He was a member of the Indian Income Tax Inquiry Committee 1935-6 and Income Tax Adviser to the Government of India 1937-40.

F. M. S. HARMAR-BROWN is a member of Central Publicity Department. He started out as an engineer, and having taken his degree at Cambridge served a post-graduate apprenticeship with a large Midlands engineering concern and was asked to start up a works magazine for them. In this way he entered the field of technical publicity.

EDWARD R. ILLING joined the Company in 1951 as a Commissioner at Nobel House. Aged 32, he is married and has three small children and has previously been a waiter, a hospital porter and a drummer in a dance band. His ambition is to write a successful play.

A. S. IRVINE, known to almost everybody as "Ivy," is the Magazine correspondent at Alkali Division. He joined Alkali Division in 1934 and has remained there ever since, except for a break of four years as works manager at the ammonia-soda works at Khewra in Pakistan.

ANOTHER £20,000,000

The I.C.I. Share Issue of 1952

By S. P. Chambers (I.C.I. Finance Director)

Why have we raised another £20 million, and how was it done? Mr. Chambers here lifts the veil of mystery with which high finance so often surrounds itself and talks frankly of the calculations and anxieties which attended the launching of the new issue.

OUR Company has raised £20 million by a share issue this year. Why did the Board decide to do this? How was it done? These are questions which I will try to explain.

In an earlier article (June 1951) I explained that the gross incomings of 1950, which amounted to £226 million, were applied as follows:

	£ million
Raw materials, payments for external services (excluding wages and salaries) . . . . .	135
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Pensions . . . . .	4
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From its own income in 1950, therefore, I.C.I. was able to use for the renewal or improvement of existing factories and plant, the building or purchase of new factories and plant, or increasing our stocks of raw materials or finished products, the amounts of £9 million (depreciation of plants) and £13 million (additions to reserves). If we spend no more than the first of these amounts, £9 million, then in the long run we should be doing no more than replacing worn-out or obsolete plant and buildings. But the demand for most of the products is growing year by year. Moreover the research and development work done in all Divisions leads to the discovery or development of new products and of new ways of making existing products. The cost of this work, most of which is included in the item £47 million for wages and salaries, amounts to about £6 million a year. When a new product or a new process is ready for full-scale commercial production a new factory or a new plant must be built, and this needs money. Expenditure on these new factories and plants and on replacing old plants is capital expenditure, and I.C.I.'s capital expenditure programme since the war has been a very heavy one. From the end of the war in 1945 up to 31st December, 1951, our actual cash outlay

on capital expenditure amounted to £121 million.

This capital expenditure programme is costing more than the amounts which can be set aside out of profits, and the Company has therefore to raise capital—either share capital or loan capital—from outside sources. In 1948 we raised £20 million by an issue of ten million ordinary shares at 40s. 6d. a share; in 1950 a further £20 million was raised in the form of a loan from institutions such as insurance companies, and now again in 1952 we have raised another £20 million by an issue of a further ten million ordinary shares.

We have thus spent since 1945 £40 million raised from outside sources and just over £60 million of the Company's reserves and undistributed profits. One way of looking at this is to say that we have invested in real assets (buildings, plant, machinery), etc. since 1945 over £60 million of the Company's own savings and £40 million of the savings of other people—over £100 million in all. This year we need more money to complete the projects already started and to start new projects. As our reserves are too small for our programmes, we have raised another £20 million from our stockholders.

For the country as a whole capital expenditure has to be financed, that is paid for, out of savings of the country as a whole. Any attempt to increase capital expenditure beyond the amount of savings tends to lead to inflation. Much of

Government expenditure is of the same kind, except that as a rule Government expenditure does not result in the production of more goods for people to buy, whereas industrial capital expenditure does. At the present time too little income is being saved, and the competition for these savings is so great that all companies which want to raise capital must apply to the Capital Issues Committee for permission.

At the present time permission to raise capital, whether share capital or loan capital, for the production of luxury goods for home consumption will normally be refused. To get permission it is necessary to explain to the Capital Issues committee what the money will be used for, whether the goods which the new factory or factories will produce will help rearmament, will increase exports, or will help the rest of British industry to do these things.

Very little of I.C.I.'s total production goes into products for direct home consumption. Most of our products are the raw materials of other industries and large quantities are exported for use by the industries of other countries. Our exports are

Correspondence and all enquiries in connection with this Issue should be addressed to the Company's Transfer Office, 34, Portland Place, London, W.1 (Telephone Nos.: Langham 3454.5 & 3900).

Consent of the Treasury has been obtained to this Issue in Compliance with the Order made under Section 1 of the Borrowing (Control and Guarantees) Act, 1946: it must be distinctly understood that in giving this consent the Treasury does not take any responsibility for the financial soundness of any schemes or for the correctness of any of the statements made or opinions expressed with regard to them.

A copy of this Prospectus has been delivered to the Registrar of Companies for registration as required by the Companies Act 1948.

**IMPERIAL CHEMICAL INDUSTRIES LIMITED**

**DIRECTORS**  
CHAIRMAN  
J. ROGERS, D.S.C.  
DEPUTY CHAIRMEN  
A. FLECK, D.S.C.  
SIR WALLACE AKEB, C.B.E.  
P. C. ALLEN  
THE RT HON SIR JOHN ANDERSON,  
G.C.B., G.C.M.G., G.C.S.I., F.R.S.  
E. A. BINGEN  
S. P. CHAMBERS, D.S.C.  
THE RT HON SIR ANDREW DUNN, G.C.B.  
THE RT HON LORD GLENCONNER

**Head Office:**  
NOBEL HOUSE,  
BUCKINGHAM GATE,  
LONDON, S.W.1.

**Transfer Office:**  
34, PORTLAND PLACE,  
LONDON, W.1.

15th February 1952

**TO THE ORDINARY STOCKHOLDERS** (The attention of Preference Stockholders is particularly drawn to Paragraph 19 hereof.)

Dear Sir (or Madam),

**Issue of 10,093,023 new Ordinary Shares of £1 each.**

(1) The Board of Directors have decided to issue 10,093,023 new Ordinary Shares of £1 each at the price of 40s. 6d. per share and to offer these shares to the Ordinary Stockholders on the Company's Register of Members at close of business on 16th January 1952, in the proportion of one new Ordinary Share for each £6 of Ordinary Stock held by them. Fractions of new shares will be disregarded.

(2) The following table sets out the position of the Company's authorized and issued share capital, and it will be seen therefrom that no increase in the Company's authorized capital is needed for the proposed issue. The 10,093,023 new Ordinary Shares proposed to be issued have been provided by classification of the appropriate number of unclassified shares as Ordinary Shares.

	Authorized	Issued and converted into stock	Unissued	Proposed to be issued as new Ordinary Shares of £1 each
7% Cumulative Preference Shares of £1 each	24,081,956	24,077,691	4,265	—
Ordinary Shares of £1 each	60,558,139	60,558,139	—	—
Unclassified Shares of £1 each	10,359,905	—	10,359,905	10,093,023
	95,000,000	84,635,830	10,364,170	10,093,023

The first page of the prospectus of the new issue, sent to shareholders in February



The public announcement was made on 16th January, 1952, the forms were sent to stockholders on 15th February, and the latest date for acceptance was 7th March. With the acceptance it was necessary to send a cheque for £1 for every share applied for. The remaining 20s. 6d. was payable on or before 18th April, 1952.

[illegible]

With stock and share values falling in this way it was by no means certain that I.C.I. stockholders would wish to take up all the shares offered to them. There were the usual arrangements

The figures indicate that a very large number of small stockholders took up their rights. This means that many people of modest means were prepared to put their savings into I.C.I. Of the excess applications a large proportion came from big insurance companies and pension funds (including I.C.I. Pension Funds). This result was most gratifying. At a time when money was short stockholders of all kinds, including many thousands of I.C.I. employees, showed their faith in the Company's future by taking up every share they could. It is for the Company to show, by its enterprise and efficiency, that this trust is not misplaced and to see that these savings are fairly rewarded.



# THE EXPLOSIVES TESTER

ARDEER was putting on its bleakest show of weather as we picked our way between sheds and over railway lines. The westerly wind that blows in from the sea for so much of the year had a cutting edge on it, and my guide was prompted to say "It's never a really warm place, Ardeer."

He was taking me to the Testing Station to meet Jimmy Wilson, an explosives tester. For obvious reasons the station is set somewhat apart from the rest of the explosives factory, but it sends out continuous reminders of its presence in the form of thuds and hollow bangs. I had been hearing them all day, and now, as we rounded the corner of a shed, I saw where they came from: a collection of small brick huts and two or three sheds, with a red flag flying from a mast here and there.

We found Jimmy Wilson in one of the huts, entering figures in a notebook. I thought as we were being introduced that if I had met this mild, sparely built, thoughtful-looking man anywhere else I should have taken him for a clerk.

In fact his activities are anything but clerkly. For thirty-four years he has been setting off some hundred explosions a day, ranging from a sharp little crack as he lets weights fall on a piece of blasting gelatine the size of a pinhead to a full-blooded wallop as he fires an experimental charge into a tankful of air and methane.

For a man who makes so much noise Jimmy is remarkably quiet by nature. Of himself and his job he will say little without persuasion. All but 6 of his 40 years at Ardeer have been spent at the Testing Station, and during that time he has heard, he says, millions of explosions. Our conversation was punctuated by them, and while I jumped at every one Jimmy never batted so much as an eyelash. "Mind you," he said in his strong Scots accent, "if somebody lets off a firework at home and I'm not expecting it, I jump like you're doing now."

He told me he was just about to carry out a routine power test on a sample of the previous day's make of one kind of blasting explosive. He took me outside and showed me, in the shed next door, what looked like a very small, pot-bellied cannon on the end of a steel pendulum.

This, he explained, was a mortar. A small charge of the sample explosive was used to fire a projectile from it. Then the recoil of the pendulum was measured and compared with

a standard recoil—that given by the same quantity of blasting gelatine.

Back in the brick hut he set about preparing his charge. From the sample cartridge of explosive—looking like pink sea-side rock in waxed paper—he broke off half an inch. He crumbled it and ladled crumbs on to the pan of a chemical balance until he had exactly ten grams. While he was tamping this into a little brass mould he explained that after every seven test shots with factory samples he made two with blasting gelatine. The standard had to be set as often as that because of slight wear in the mortar.

By now he had equipped his ten-gram charge with a detonator, twelve inches of safety fuse and a neat tinfoil wrapper. He carried it next door to the mortar shed again. There he took the projectile and deftly fitted the charge into a recess at the back of it.

He lit a match—he is one of the few men at Ardeer allowed to handle matches—and touched off the fuse. As the fuse sizzled he retired without haste and joined me outside the shed.

At the end of thirty seconds there was an explosion that shook the ground and made one's ears sing. The projectile had been hurled into a special non-abrasive trap and the pendulum was still swinging from the recoil.

Jimmy steadied the pendulum. Its furthest swing had knocked back a marker on the quadrant alongside to a point which he read off as 14.5 degrees.

But he could not accept that. The test had to be repeated.

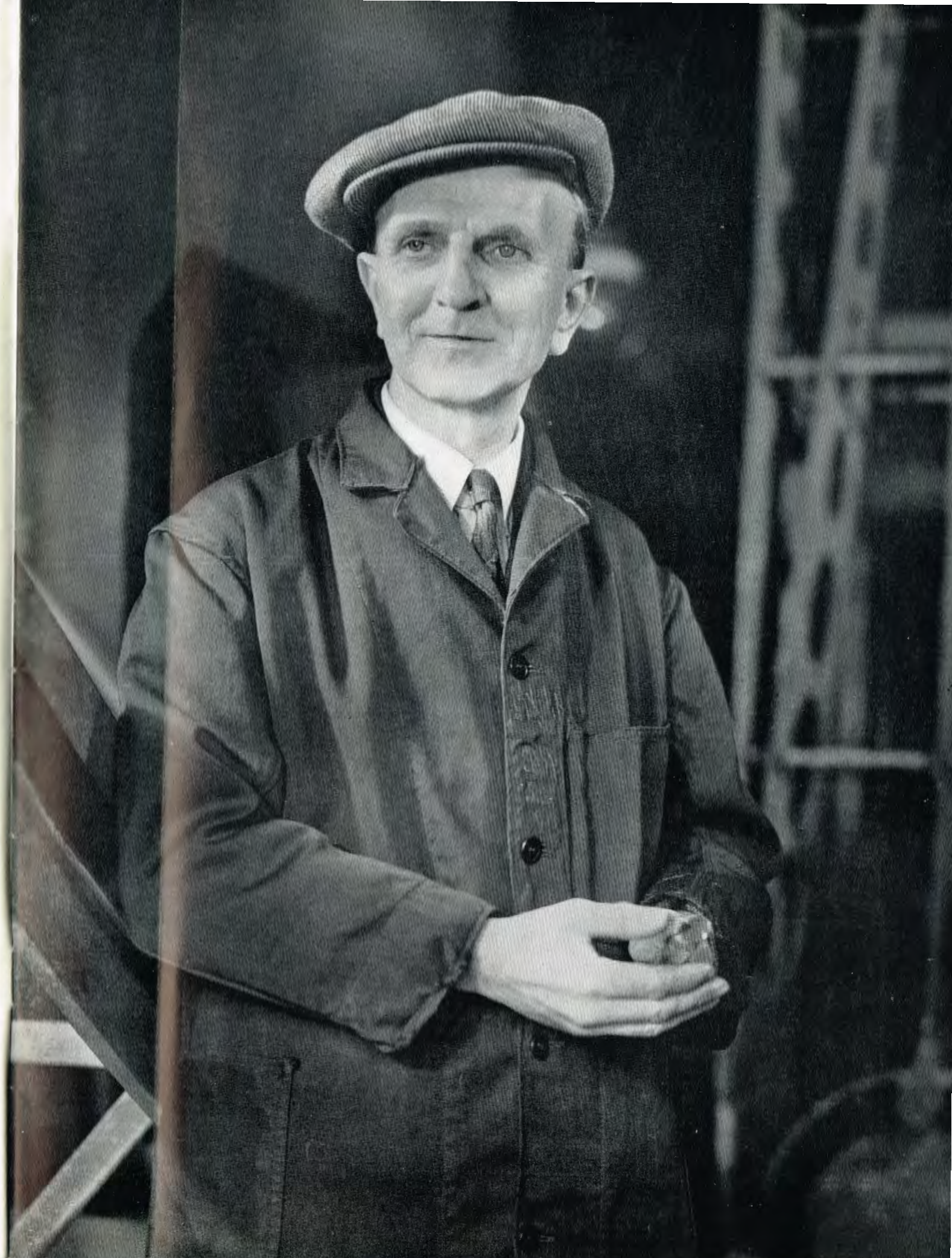
After the second shot he found the average of his two results and compared them on a special scale with his last average for blasting gelatine. This gave a figure for the sample of 58.4% of the power of blasting gelatine.

"That's satisfactory," he said; "but if it hadn't been I should have telephoned the factory at once. These samples are Permitted Explosives—blasting explosives permitted by the Home Office for use in dusty or gassy coalmines—and they're very strict about the specifications."

Jimmy made an entry in his notebook. Another sample had passed the test for power; and as far as power was concerned another batch had been passed as fit for use in mines and quarries.

M.J.D.

*James Wilson, Explosives Tester*





# Information Notes

## OPERATION REGISTRAR

*The new issue of I.C.I. stock, described in Mr. S. P. Chambers' article on page 162, involved the printing and circulation of one and a quarter million documents. This month the last of them, the actual stock certificates, are being sent out to the new stockholders. Here is an account of how it was all done.*

### WHAT THE COMPANY EARNED IN 1951

*The gross profits of the Company earned last year touched the record figure of £40 million. What has happened to this money? This article tells you and explains how a considerable part of these profits are really artificial, due to the rise in the value of stocks because of increased prices.*

As was recently announced in the press, the surplus on the year's working before the charge for taxation worked out at £40,100,000, which must be regarded in all the circumstances as a very satisfactory figure.

This figure, which is referred to in the published accounts as the consolidated income of the year before taxation, represents the surplus which is left after deducting the sums paid out or set aside for raw materials, wages and salaries, pensions and depreciation, from the gross sum received in return for the sale of the Company's products as well as from its income from investments in subsidiary and associated companies. From this surplus further deductions have to be made for Income Tax, Profits Tax and overseas taxes, amounting to no less a sum than £16,600,000. Further deductions then have to be made for profits retained by subsidiary companies, such as I.C.I. of Australia and New Zealand, to cover amounts due to their minority members, etc.

We are finally left with a figure for the net income of I.C.I. for 1951 which amounts to £20,382,548. The first appropriation which the Board made from this income was £2,944,000,

representing deferred income tax liability which will be payable in future years.

The Board have also this year set aside to stock replacement reserve a sum of £7,000,000, which may be regarded in the light of a set-off against what is really an artificial increase in the Company's profits for the year, due to the rise in the value of the stocks held by the Company not on account of any increase in volume of the Company's stocks but simply because of increase in price. A further sum of £5,000,000 has been put to obsolescence and replacement of assets reserve, and this is in addition to the figure of nearly £9,000,000 charged for depreciation. It represents, however, a very necessary appropriation, since, when calculating depreciation charges, it is the existing or second-hand value of the Company's assets which is taken as the basis, and when these assets have in fact to be replaced it will clearly be at their full present-day cost in new condition, for which the ordinary depreciation allowance would be entirely insufficient.

After these appropriations there remained £5,438,000 for distribution to stockholders out of the income of the year. Net dividends on the preference stock amounted to £885,000, and on the ordinary stock £4,133,000. This leaves an amount of £420,000 to be added to the sum brought forward from last year of £4,425,000, so that £4,845,000 is carried forward to next year.

Thus, while the announced net income of £20,382,548 must be regarded as being in all the circumstances of the time very satisfactory, it will be seen that any notions of unlimited surplus available for distribution are, when the necessary appropriations have been taken into account, very far from the mark, and once again there is illustrated the somewhat misleading nature of the term "profits" and the necessity to consider all aspects when applied to the workings of a great industrial enterprise such as I.C.I.

	1950 £ million	1951 £ million
Gross manufacturing and trading proceeds and gross income from investments, etc. . . . .	226	267
Raw materials, payments for external services (excluding wages and salaries), etc. . . . .	135	159
Wages and salaries . . . . .	47	55
Pensions . . . . .	4	4
Depreciation of plants . . . . .	9	9
United Kingdom and overseas taxation . . . . .	13	17
Additions to reserves . . . . .	13	18
Net dividends to stockholders . . . . .	5	5
	£226	£267

THE Company now has £20 million new cash resources safely lodged in its banks. It has taken 17 tons of paper, more than half a ton of printer's ink thereon, and five months' unremitting effort by the I.C.I. Registrar and his staff in the Stock and Share Department to get it there.

The preliminary planning for the operation took place in great secrecy before the public announcement of the new issue of capital on 16th January. Mr. E. G. Lambert, the Registrar, shared in the secret, of course, but no one else in his department did, and for several weeks he was forced to be almost furtive to avoid any possibility of a leakage of information.

As soon as the public announcement was made, some 70 extra staff were engaged to swell the ranks of the permanent staff of 60. The first job was to send out to every stockholder a prospectus of the new issue. Holders of Ordinary Stock received as well a printed letter offering them their allotment of new shares, and holders of both Ordinary and Preference Stock were sent a pink form on which they could apply for a proportion of any new shares not taken up by those entitled to them.



*forced to be almost furtive*

There are more than 200,000 I.C.I. stockholders scattered throughout the world. Their names and addresses are contained in some 600 leather-bound volumes kept at the Stock and Share Department at 34 Portland Place (where, incidentally, they are open to inspection by anyone who cares to pay a shilling). As will be readily understood, to avoid any semblance of unfairness it was essential that the envelopes to all these stockholders should be posted on the same day. This day, Friday, 15th February, was fixed some time ahead, and exceptionally heavy work was involved in keeping to schedule. To help the Post Office cope with such a large mail, on each of the four preceding days 50,000 letters were taken away by them, franked and sorted, and held to await the final consignment on the 15th. It was important that every stockholder should be able to exercise his rights, and letters to those in distant parts of the world were sent by airmail to ensure speedy delivery.

The letters, which contained nearly 600,000 documents, were all despatched by the G.P.O. on Friday the 15th. Stockholders were told in the Allotment Letters that if they were

going to accept the offer of new shares they must do so by 7th March. All they needed to do by way of acceptance was to sign a declaration on the Allotment Letter and send the letter to the banker named, with the first instalment of 20s. per new share. All seven of the Company's bankers had been mobilised for the occasion, and the name of one was given on each Allotment Letter.

A few days after the letters had been sent out the banks began to send in to the Company the Allotment Letter counterfoils which signified acceptance by the stockholders, as well as pink forms applying for shares not taken up by those stockholders entitled to them. The Stock and Share Department's mail arrived by the vanload, and stockholders, banks and brokers besieged the department with queries.

As 7th March approached the excitement rose. No one could be certain how the new issue would go. On 8th March (a Saturday) the banks worked all the afternoon clearing the last valid acceptances and sending notification of them to the Stock and Share Department. As the figures came in the atmosphere was something like that at a general election, Mr. Lambert says—an exciting time indeed. By evening the success of the issue was assured.

Acceptances were received for approximately 7½ million shares and applications on pink forms for more than 4 million, whereas there were only just over 10 million shares to issue. When it was learned that the issue had been oversubscribed by 1½ million there was a tricky problem to solve: the applications on the pink forms had to be cut down by 1½ million. The question was how to do this fairly and to satisfy all the applicants, from those applying for very large numbers down to those applying for a very few.



*the excitement rose*

In the event, the small applications received full allotment and the large applications one-half of the shares applied for, every applicant receiving something. By Monday, 10th March, the scheme of allotment had been formulated and it was confirmed by the I.C.I. Board the following day. Then the allocation of the surplus shares had to be worked out in detail. Stock and Share Department worked all day Wednesday, 12th March, and throughout the night, filling in and sending off forms to the applicants, telling them



how many shares they could have. 27,000 of these letters went out, and many of them contained a cheque returning excess money.

Ordinary stockholders who had accepted this allotment of new shares, as well as those who were allotted the surplus shares, had only paid for them in part. The remaining payment was due by 18th April. Again the banks were kept going at full pressure, and again at Portland Place everyone worked seven days a week.

With the second payments to the banks came the particulars about the purchasers, which had to be entered in the Company's Register of Members. These particulars have also enabled the new stock certificates to be prepared and signed (over a quarter of a million signatures were called for) so that they may be ready for issue on the 18th June. After that the Stock and Share Department will breathe a sigh of relief and return to normal working conditions—at least until the next new issue.

M.J.D.

## I.C.I. EXPORTS—1951

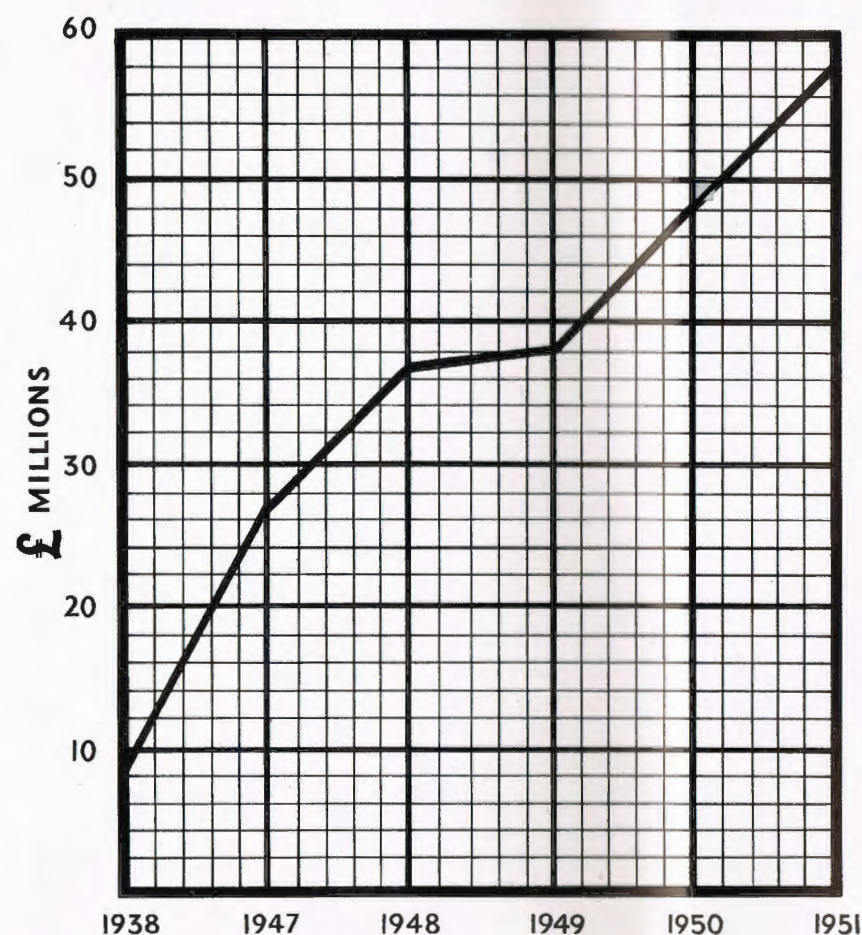
By W. G. Harrold (Export Executive Department)

*Last year our exports again hit record figures, reckoned in terms both of volume and of value. Here an expert reviews how the various Divisions contributed to this achievement, and warns that it will not be easy to maintain the same rate of progress next year.*

THE year 1951 was again a record one for exports of I.C.I. products. An increase of nearly £10 million was made on the 1950 exports and the total f.o.b. value reached £57.9 million. This was a very good result, particularly as there were many hindrances to export in the early part of the year. Raw materials of various kinds were in short supply, notably sulphur, non-ferrous metals, acetone and ethyl alcohol; fuel supplies were also threatened and some export packages difficult to obtain.

All Divisions contributed to the increased exports, large contributions of over £1 million each being made by Alkali, General Chemicals, Pharmaceuticals and Nobel Divisions. It was particularly noteworthy that Leathercloth exports were more than doubled, Paints nearly doubled and Pharmaceuticals increased by half.

Import restrictions overseas continued to hamper our exports, and many countries were short of sterling to pay for our exports. Shipping problems were also encountered, firstly in the form of dock strikes at Liverpool and Manchester which held up our shipments, and then later in Australasia, where the slow turn-round of shipping and a strike in New Zealand created chaos in our export shipments. German competition increased sharply during the year, particularly for dyestuffs. American alkali products, as a result of a recession in demand in



*The value of I.C.I. exports for 1938 and post-war years*

the United States, were offered more freely for export towards the end of the year.

Every year since the war ended the exports of I.C.I. products have increased both by volume and value, until in 1951 we exported six times the value of our exports in 1938. To maintain this progress in 1952 in the face of increasing competition and a general recession in the world textile industries will require the keenest effort on the part of the Divisions and

our overseas companies. The import cuts made by Australia alone will seriously reduce our exports to that market, and many countries where we might otherwise send the goods are very short of sterling.

Fortunately our exports in the first quarter of 1952 were good, but a sustained effort on the part of all concerned with exports will be necessary if we are to do as well as last year.

## THE ROYAL SOCIETY

By Dr. F. A. Freeth, F.R.S.

*The recent election of Sir Wallace Akers, I.C.I. Research Director, to Fellowship of the Royal Society, second only in seniority among learned societies to the Lincei\* and in reputation to none, prompted us to ask Dr. Freeth for the following short note.*

“IN the name and by the authority of the Royal Society of London for the Improvement of Natural Knowledge I hereby admit you a Fellow thereof.” This is the formula with which the president admits and welcomes a new Fellow and which gives the Society its full title, which is seldom used.

The newcomer signs the Charter Book, the first signature in which is that of King Charles II; there is room for, say, another hundred years of signatures in it.

The Society arose out of a small club formed about 1645 of “divers worthy persons, inquisitive into Natural Philosophy or Experimental Philosophy” which met weekly in London. About 1648 the club divided, and some of the members, among whom was Dr. Wilkins (afterwards Bishop of Chester), having removed themselves to Oxford, formed themselves into the Philosophical Society of Oxford.

In 1661 King Charles agreed to the formation of the Royal Society and granted a charter of incorporation under the Great Seal of 15th July, 1662. The Society's motto, *Nullus in Verba*, was suggested by Evelyn. The Charter Book contains many famous signatures: Evelyn, Pepys, Christopher Wren, Newton, Young, Davy, Faraday, Darwin, and multitudes of others. In its early days the Society was poor and many of the Fellows were perpetually in arrears with their subscriptions.

The Society always advises the Government of the day on scientific matters and has a great many official and other responsibilities. In its early days it came in for a good deal of ridicule and chaff. Witness Swift's “Academy of Projectors of Lagado.” In my more ribald moments these characters of Swift's rather remind me of a modern research laboratory.

How does one get into the Society? So many people have asked me this that I think a short description is worth while. There are three classes of Fellows. Members of the Royal Family, persons of very great distinction, elected one every

other year, such as Mr. Churchill, Mr. Attlee, Lord Waverley, and finally the body of the kirk.

To be elected you must obtain a certificate. That is to say, your proposer, seconder and six other Fellows must furnish good and sufficient reasons why your name should be put up for election. A certificate is valid for five years, and if you do not get in it can be renewed.

In the new year the committees get to work, one for each science—mathematics, physics, chemistry and so forth. These committees submit the claims of the candidates to the most searching scrutiny. Each committee selects two or three names which are then submitted to the council, who make recommendations upon which the Fellows vote by ballot.

In its early days the Society had no limit of Fellowship. In 1838 they limited the number of Fellows to be elected each year to fifteen. This rule remained in force till the 1930's, when the number was increased and now stands at twenty-five.

How does one get out? If you care to resign you can, but it is unusual, if not unknown. There also exists an elaborate machinery for expulsion never invoked nowadays. A recent number of our house journal recounts the case of a Fellow who, having described a method of making gold to the great indignation of many Fellows, invited them to his laboratory, started his demonstrations, excused himself for a moment, took poison and died—thereby evading the elaborate machinery. This was in the eighteenth century and is hardly likely now.

Finally, no one who knows Sir Wallace will doubt that he will worthily maintain the prestige and dignity of this world-famous society. I should like to end on a personal note. I have been a Fellow since 1925 and Sir Wallace overlapped me as another F.R.S. in the Company by ten days or so.

On the morning of the election I said to a young I.C.I. friend: “We are going to elect Sir Wallace into the Royal Society today.” His reply was: “It's about time we had another, now you're leaving us, especially a good one.”

\* *Accademia Dei Lincei*, an Italian learned society founded in 1600. Galileo was among its earliest members.



# THE UNIVERSITY GRADUATE IN INDUSTRY

By Sir Arthur Smout

*Sir Arthur Smout, in his capacity as president of the Birmingham Chamber of Commerce, recently opened a discussion between industry and the university at the Union Club, University of Birmingham. He posed the question: "What does industry expect of the university graduate?"*

THE universities of today, said Sir Arthur, were "creaming-off" an ever-increasing proportion of the brighter young people from public, grammar and secondary schools—people of the type who twenty-five to forty years ago went straight from school into industry and were trained by industry as potential leaders in the hard way.

"We in industry know of this 'creaming off,' and we welcome it. But a question which is giving some of us great concern is: Are our bright young people benefiting as much as they might by this new treatment, and are we as employers using this talent to the best advantage in the national interest?"

Some industrialists were gravely perturbed at the ultra-concentration and therefore the restrictive character of present-day university courses in this country. It appeared to them that the curricula were so overloaded that the students had no time to think. In this respect they could not help contrasting similar institutions both in North America and on the Continent. The criticism of ultra-concentration applied apparently equally to the arts and to the science faculties. It was more marked, he believed, in the modern universities than in Oxford and Cambridge, where residential facilities tended somewhat to break it down.

"This concentration in such narrow channels," said Sir Arthur, "is most definitely *not* what industry wants, with minor exceptions."

The country's greatest need at the moment was for inspired leadership, and in no direction was this more necessary than in industry, trade and commerce. It would not be got from men who had spent their formative years concentrating, for example, on nuclear physics and electronics. He was not decrying such men, indeed he had the greatest admiration for them; but they could be fitted into industry only in a very limited sphere and in quite small numbers. He suggested that only one physicist in ten should be deflected into atomic-mathematical physics; the rest should be brought up in the classical school of Faraday. It was this school which was the more likely to solve present-day industrial problems.

Brilliant though atomic physicists might be, they were not one of the main sources of recruitment to industry and rarely, if ever, suitable for management. Yet the universities kept on training men in restrictive fields such as these and appeared disappointed when industry failed to absorb the "finished" product—a man knowing more and more of less and less, as it had been so aptly put.

Surely education, especially at university level, was primarily aimed at developing character and potential in preparation for a life of progressive work and increasing achievement. As an industrialist he asked for nothing more on the education

side from the universities. If the universities would do this, teach the fundamentals, show the whys and wherefores and build up the enquiring mind, they in industry would teach the business—the "hows" of industry—in a few years.

Much of this industrial training must be self-acquired. Though the new graduate entrant would take orders from his chief and receive from him general guidance and sound advice and be able to learn much from his colleagues, yet he must not expect to be spoon-fed.

A works was not a teaching institution. No one engaged there felt he owed the young graduate a living, and the young graduate would be grievously disappointed if he came expecting his seniors, or even his junior colleagues, to attend on him with advice, hints and assistance generally. He had got to get out and about and pick things up for himself while performing menial tasks, maybe, or tasks which to a newly fledged graduate might appear to be menial and monotonous. "Learn while you earn": it was a hard school, but still a very sound one.

I.C.I., said Sir Arthur, employed today 3500 graduates—a large number of whom had graduated in the liberal arts. The Company found an increasing use for such men and women, and their numbers had risen nearly 80% over the past six years—a far greater proportional increase than among the technologists and scientists.

In the past the most able men, and certainly the best administrators, were those trained in the humanities. But there was now a challenge from another type—the administrator with the scientific background who had learned the great secret that the best way to excel in one thing was to excel in many, and that while it was easy to exhaust oneself by over-concentration on one subject it was impossible to do so in all, and that change made for vigorous growth, for strength and for progress.

The defect of many science graduates was not their lack of science but the paucity of their general education, the narrowness of their outlook and their inability to cope with the problems of the hour with speed and sagacity. One was forced to the conclusion that science alone was not good enough; it must be paired up with parallel intellectual interests if that breadth of vision so essential to success was to be cultivated.

"Why do the science faculties," said Sir Arthur, "continue to overload their curricula with technicalities which the students so speedily forget? Why do they neglect the more liberal side of education and that more subtle training designed to promote the enquiring mind and develop original thought? Britain will never get her leaders from such narrowly trained minds."

## Third time lucky?



*I protested at this sudden generosity . . .*

By Edward R. Illing (Nobel House)

*Illustrated by Dadswell*

I HAD just got half-way through my first pint when the young man came in the quiet little bar, called for a small whisky, then turned to me and said rather quickly "Good evening—er—warm, isn't it?" I mumbled something about the papers saying we were in for a heat wave, saw the rest of my pint off, and called for another. As Tommy, the barman, served me the young man said to him "Let me pay for that—and have one yourself. I think I'll have a pint, too, this time." I protested at this sudden generosity but he insisted, so I mumbled my thanks and studied him more closely. I thought he looked pale and nervous. Nothing further was said for a while until he suddenly broke the silence.

"I hope you don't mind my barging in on you like this," he began hurriedly, "but I felt I just had to talk to someone tonight." "Not at all," I said, somewhat embarrassed by his candour; and as I raised my glass to drink, I toasted him. "Good luck!" I said. He started. "Luck? Why? Do you believe in luck?" "Not a lot," I confessed. "Why?" "Well,"

he answered, "I'm hoping there's something in this third time lucky business." "Are you?" I asked, rather at a loss for words. By now I was intrigued by his manner and felt sure he had a story to tell. He had.

He lit a cigarette, offered me one, which I accepted, and then started off by saying "My name's Bannister, Ted Bannister, and I live in that house on the corner of West Street and the High Road. Well, now, talking about luck—'third time lucky' and that sort of thing—you may think I'm crazy, but it seems there might be something in it. For instance, I didn't pass my driving test until the third attempt. Then I won a tidy little sum on the pools with my third entry. My wife was the third girl I was ever really keen on (and we've always been very happy). And there are many other instances in my life where 'third time lucky' has proved true. So I'm hoping it holds out this time." He was really excited by now, so as he gulped his beer I called for another round and listened intently as he continued his story.



"It all started one morning at breakfast," he said when resumed. "I was just leaving to go to work when my wife said to me as I kissed her, 'Ted, I think I'm going to—to . . .' She needn't have said any more. A certain look on her face and shine in her eyes told me all I needed to know.

"As I sat in the bus on my way to work that morning my mind was in a whirl, and my thoughts came rushing one after the other in chaotic disorder. A baby! Not that this was a new experience for me. Oh, no! In fact, I had become quite adept at being a father, my wife having already presented me with two lovely and adorable kids that any father would be proud of. Janet was five, and Anne just three and a half. Of course, on each occasion I had fervently hoped for a son. But it was not to be, and I must confess here and now that, in spite of the many congratulations showered on us by everybody on each occasion, the disappointment in my heart was a bitter pain. I'd wanted a son more than I'd ever wanted anything before. It had become almost an obsession with me.

"When we knew that our first child was on the way we spent each day and night of waiting discussing the relative merits of boys' names as my wife knitted tiny blue baby clothes. John, James, Alec, Paul, Mark, Christopher, Richard, and so on and so on. Of course, at first Linda, my wife, wanted to call him Edward after me, but I wasn't having any. I had decided that whatever else we called him it wouldn't be Edward. Why? I don't know, unless it was because I wanted him to have a name of his own, not something left off by his father. Call it a silly complex if you like, but that's how I felt about it.

"Then came the day of days. The climax to that long period of waiting. But it became an anticlimax when I phoned the hospital and a voice at the other end said 'Mr. Baninster? Oh yes, you have a daughter, six pounds, eight and a half ounces. Both doing well.' Just like that. All my hopes and dreams were shattered by those few laconic words. Naturally I was most relieved to know it was all over and my wife was O.K.—but a daughter—oh, hell!"

We had another drink while he paused to light another cigarette, then he continued.

"The second time was no different to the first, even to the same tone in the operator's voice as she told me the news. 'Yes, Mr. Bannister, a daughter, both well. The baby weighs . . .' But I'd hung up. I just wasn't interested as to how much the cause of my intense disappointment weighed.

"And now it's happening all over again. But this time maybe it will be different. Right from the first day the wife had told

me baby number three was on the way I've been telling myself it must be a son this time. Not that I'm a super-optimist, but surely this occasion would prove the old adage of 'third time lucky' really true! I'd even settled on the name he would have months previously. Stephen! Stephen Bannister! Now there was a *man's* name! I wonder what he'll grow up to be. He might even achieve fame in some form or other. A future prime minister, maybe, or a famous footballer (I'd always been keen on sport myself, ever since I was so high). Or perhaps he'd turn out to be a scientist, or explorer, or a film star, or . . ." He stopped suddenly, realising with embarrassment how worked up he had become. Then he said "I'm sorry, old chap—I'm afraid I was carried away for a minute." He paused before going on in a quieter tone. "Soon be time to phone the hospital. The sister said phone again at six. Wants a few minutes yet."

The young man in the blue suit who had been telling me all this took another pull at his pint. We were the only two in the bar, as it was still early. He tried unsuccessfully to light a cigarette. I gave him a light, and after inhaling deeply he spoke again.

"You married, by the way?" I nodded. "Kids?" I shook my head. Then he braced himself, finished the pint off, and getting excited again said "I think I'll go and phone now in case anything's happened yet." As he reached the door he turned round and asked "Will you be staying awhile? I only asked because I thought you might like to know how things went." And then, rather shyly, yet very proudly, "If it is a boy, old chap, you shall have the best in the house on me. Well, I'm off now; there's a phone box just round the corner."

He went out, leaving me the sole occupant of the bar. I stood there wondering about him. I found I rather liked the bloke. Poor fellow was certainly het up over this business of being a father for a third time. I felt rather sorry for him and hoped he would get his wish.

I suppose I must have stood there for an hour or more. But he didn't come back. I went home, puzzling over his failure to reappear right until I finally got to sleep that night.

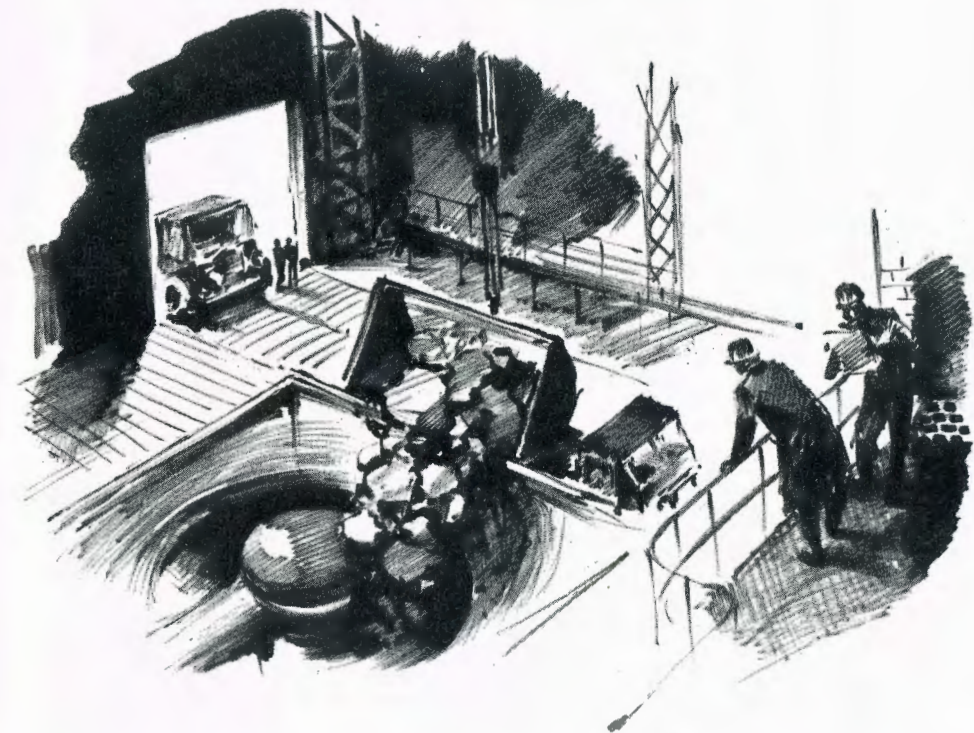
Next morning I opened my paper as I sat in the train and was glancing through the various news items from all parts of the world when a small paragraph in the bottom right-hand corner of one page attracted my attention. Briefly, it reported that one Edward Bannister had been knocked down and killed instantly by a bus as he rushed out of the main entrance of St. Luke's Maternity Hospital the previous night after visiting his wife there, who had just presented him with a third child—a boy.



... a small paragraph attracted my attention

# TWO QUARRIES

By F. M. S. Harmar-Brown



The primary crusher at Tunstead

Of all the many and diverse I.C.I. enterprises none is more spectacular than Tunstead Quarry of Lime Division. Contrasting with its smaller brother Cowdale, Tunstead is one of the most modern and highly mechanised quarries in the world.

Illustrated by Arthur Horowitz

COWDALE and Tunstead are two of Lime Division's four limestone quarries. Their very names seem to give more than a hint of the contrast between them—Cowdale, small and hand-worked; Tunstead, vast and mechanised. Both are within a few miles of the domes and pleasure gardens of Buxton Spa in Derbyshire and are in an area where quarrying has been carried on since time immemorial.

At Cowdale Quarry the limestone is won by time-honoured methods, the only concessions to modernity being the use of explosives and the installation of a narrow-gauge diesel haulage system to replace horses and carts. Four old-type, hand-fired lime kilns have been built against the rock face so that they are charged at the top at quarry level while the lime is drawn from



Mr. W. Cumberbatch, a shift manager at Tunstead crushing plant

the bottom some 60 ft. below. The whole output of limestone from the Cowdale Quarry goes to make lime in these kilns, and they produce some of the best lime in the country.

The quarry itself looks just like your idea of a quarry. The face is about 80 ft. high, and the stone is brought down by blasting with blackpowder. After a round has been fired the exposed face is examined and made safe by the "getter," who eases down any loose stone with a tool that for hundreds of years has been known by the wonderfully apt name "proggler."

Black powder has rather a heaving effect, with the result that the stone is brought down in fairly large lumps. The largest of them have to be broken up on the quarry floor with small charges of high explosive by





TUNSTEAD QUARRY: an impression of the quarry face. The mechanical shovel handles five tons of limestone at a single scoop.



specialists known as "poppers," but the rest of the stone is reduced to a manageable size with quarry hammers, weighing about 24 lb., by the men who load it into narrow-gauge wagons which are drawn by diesel locomotives to charge the waiting kilns. These men are known as "fillers" and they are the key men in the production of limestone from the quarry.

Good fillers are scarcer today than they were a few years ago, but, as Raymond Bacon will tell you, there is nothing wrong with the fillers at Cowdale. There is nothing wrong with Raymond either. He looks about 45, but he has been working at Cowdale longer than that, and was in fact 61 last April. He is foreman in charge of Cowdale now, having started as a picker. The picker's job is to go over the lime as it is drawn from the bottom of the kiln by the drawer and pick out clinkers, ash and any unburnt limestone. In Raymond's picking days he was paid piecework at the princely rate of 2d. a ton!

Tunstead Quarry is only a few miles from Cowdale, but there is a world of difference between them. Cowdale, of course, was a working quarry long before I.C.I. was thought of, while the Tunstead site, which was green fields in 1929, was a brand-new enterprise developed by the Lime Division with the main purpose of getting from one site very large tonnages of first-class limestone for the Alkali Division.

From the first, Tunstead was planned for large-scale development in stages. It was originally opened up as a hand-worked quarry with the stone crushed mechanically. From 1943 onwards labour became increasingly scarce, and in 1945, after extensive research, it was decided to mechanise most of the stone loading and to introduce a washing process to ensure a first-class product. Towards the end of 1946, in consequence of extensions to the works of the Alkali Division, provision had to be made for a further stage in the expansion of Tunstead. This involved capacities quite beyond the scope of hand loading even with unlimited labour.

So it was only six years ago that the reorganisation of Tunstead on its present lines was begun, with



AFTER THE BLAST at Cowdale Quarry. "Fillers" get busy, while the "getter" uses his "progger" on a heap of limestone in the foreground.



THE KILNS AT COWDALE tower above the Buxton-Matlock main road and produce about a thousand tons of burnt lime every week

the result that the visitor to the works today sees one of the most modern and completely mechanised quarries in the world.

The main working face is nearly  $1\frac{1}{2}$  miles long and about 120 ft. high, and the combined effect of height and space hopelessly upsets the normal sense of proportion. As we approach the workings we see what appear to be quite small mechanical excavators digging away at the piles of stone that have been blasted down. It is only when we look more closely that we discern tiny figures that do not even reach up to the cabs of the excavators, and we realise the tremendous scale of the whole thing.

The actual operations at Tunstead are much the same in principle—with one exception—as those at Cowdale.

First the stone has to be blasted down. This is done, not with black powder, but with high explosive—ten tons or more

of it being used at a time. The charges are placed in vertical holes drilled the full depth of the face a few feet back. When they are fired there is surprisingly little noise or vibration, but a wall of 40,000 to 60,000 tons of rock seems to break away from the face and crumple quite slowly into a great heap of stones.

There is nothing small about one of the electrically driven monster excavators when it is seen close up—it has a cab as big as a prefab. and enough power to its mechanical elbow to overturn a bus. Its "spade"—called a bucket—can lift five tons of limestone at one dig, and it swings this load and discharges it into a waiting 20-ton rubber-tyred diesel trailer truck as quickly as you could get a shovelful of coal into a scuttle. Four bucketfuls and the truck is full and on its way. Without a moment's pause another arrives, and the digger's





*Drawing lime from Hindlow kilns, one of the four Lime Division kiln batteries*

bucket again moves forward into the pile of stone in front of it. The full diesel truck moves off at a good speed to the crushing plant—and it is a rule of the quarry that every other form of traffic must give way to it.

The crushing plant deals with the limestone in two stages, called (you've guessed it!) the primary and secondary crushers. Probably no words can convey the impression created by the primary crusher. It is housed in a building that might well (judging by some recent efforts in that direction) have been designed as part of a new cathedral. The 20-ton diesel trailer truck drives in through one door and stops beside a great metal bowl sunk into the floor. The driver leans out of his cab and presses a button. A steel arm swings out from the wall, catches the side of the tipping body of his truck and tips its load sideways into the bowl. After the stone is tipped, the arm falls back and the truck drives out through a second door.

In the centre of the bowl—supported by a massive casting called a spider—a steel shaft and cone weighing 80 tons moves round and round like a pestle in a mortar. Its bottom bearing is only  $\frac{7}{8}$  in. off centre, but this eccentricity is enough to allow even the biggest limestone boulders to become wedged more tightly with each revolution between the bowl and cone until something has to give—and it is always the boulder.

This inexorable monster can easily cope with a 4 ft. cube boulder of limestone—bigger than the biggest office desk you have ever seen, and nearly as big as an Austin Seven. As each boulder is dealt with there is a series of grinding cracks, while for background noise there is the steady munching of the gyrating cone as it crushes smaller lumps of stone deep down

in the bowl. There is no larger crusher anywhere in the world.

Torrents of crushed stone 10 in. and less in size fall from the base of the primary crusher on to two conveyor belts. These carry it to the screening and secondary crushing plant, where it is separated into various sizes; the oversize stone is recrushed.

The screening and secondary crushing plant form an integrated unit housed in a vast, well-lit, hangar-like building. High along one wall runs a gallery from which the whole plant can be surveyed through glass windows. Although the plant itself is noisy the gallery is reasonably quiet, and the view from its windows is an impressive one. A maze of conveyors links the screening and washing plants with the secondary crusher, and streams of limestone of various sizes—washed and unwashed—seem to be moving in all directions.

Washing the limestone is an unnecessary process in a hand-worked quarry because the fillers can sort out clay and dirt when they are loading. But mechanical excavators have no time to be so discriminating, and the problem of cleaning mechanically filled stone was one that taxed the ingenuity and skill of the Division's engineers to a considerable extent before it was finally solved.

The chief outcome of all this mechanical activity is four streams of limestone, washed and graded. Three streams—the smaller sizes—flow into enormous concrete bunkers holding thousands of tons, and the stone is loaded into Alkali Division's own 40-ton wagons and sent in special trains of sixteen to Winnington. The other stream—the larger stone—travels by narrow-gauge wagons drawn by diesel locomotives to the up-to-date, mechanically fired battery of kilns a few hundred yards away to be converted into lime.

The big primary crusher was bought as a unit from America, but large parts of the screening plant and all the washing plant were designed, built and erected by Lime Division's own engineering and construction staff. Mechanisation on the scale installed at Tunstead can only be undertaken when the output required is large and steady, and those are the conditions which exist there.

The men who operate the modern equipment in this great quarry have all been drawn from smaller hand-worked quarries which had to give way to the march of progress. They have adapted themselves well to the new conditions and know that they too are doing their share in enabling one of the basic industries of the country to keep abreast of the times.

# I.C.I. NEWS

## I.C.I. HOSTS IN DUBLIN

I.C.I. was host at a reception and dance held at the Royal Hibernian Hotel, Dublin, on 18th April to mark the end of a four-day joint anniversary meeting of the Royal Institute of Chemistry and the Chemical Society.

The guests, about 300 in number, were received by Mr. E. D. G. Lewers, manager of the Irish branch of I.C.I. (Export), and Mrs. Lewers. Among them were Sir Eric Rideal, president of the Chemical Society; Mr. H. W. Cremer, president of the Royal Institute of Chemistry; Prof. C. K. Ingold, president-elect of the Chemical Society; and Sir Wallace Akers, who is treasurer of the Chemical Society as well as Research Director of I.C.I.

## ALKALI DIVISION

### Dr. P. G. Shard

Dr. Philip George Shard died at his home in Hartford, Cheshire, on Thursday, 24th April, after a short illness. He was 82.

His father, Louis Schad, was a lifelong friend of Ludwig Mond. They met when they were boys attending the Polytechnic in Cassel in the 1850's, and later Schad followed Mond to England, where he helped him in the realisation of his plans for founding a great chemical industry. Dr. Shard was born in Warrington on 6th October, 1869. In 1892 he took his degree of Doctor of Philosophy at the University in Zürich. At the invitation of Dr. Mond he joined Brunner, Mond & Co. Ltd. in May 1893, later becoming Winnington Works Manager. Shortly after the formation of I.C.I. he was appointed a member of the delegate board of Brunner, Mond & Co. In April 1931 he became managing delegate director of I.C.I. (Alkali) Ltd., a position he held until he retired in December 1932.

Dr. Shard's greatest hobby was rose-growing. Before the last war his rose garden, of which he was justly proud, was thrown open to the general public in aid of Queen Alexandra's Nursing Service. He took a great interest in the Hartford Horticultural Society and the Winnington Park Recreation Club.

Dr. Shard leaves a widow and one son, Mr. G. E. Shard, who is an assistant staff manager at Winnington.

### A Happy Retirement

At a rotund and well-preserved 85 years of age Mr. James

Lamb proudly claims to be the oldest inhabitant of Lostock village. His early memories include the selling of newspapers in the stirring days of the Afghan and Zulu Wars of 1878. Retired from the service of the Company nearly a quarter of a century, his occupations have been many and varied since he first started riddling coke in the smithy at Winnington at the age of 13.

For eight years of his retirement he refereed Division bowls knock-out competitions. Now, in an age of jet propulsion and scurrying ambition, he sits basking in the sun overlooking Lostock bowling green, his ready nod and jovial smile creating an aura of peace and contentment with the simpler pleasures of life: the sunshine, his mug of ale, and the living green of the turf.



*Mr. James Lamb*

### Lawson Memorial Exhibition

It was a heart-warming experience to stroll round the art and handicraft exhibition held at Winnington in April: a reminder that people from every branch, from the bottom to the top, of a great industrial concern still have the skill, patience and ingenuity to create with their own minds and hands: a reply to many that accuse this modern age of laziness and apathy. Mr. Digby Lawson, a former chairman of Alkali Division and a Main Board director, would surely have been proud of the exhibition held in his memory.

This was the second year for such an exhibition to be held, and it aroused even more interest than the last time. 1250 visitors were recorded during the five days, either at lunch-time or in the evenings. The winner of the first prize—a book token worth £4—was Mr. E. S. Lare of the Instrument Development Section at Winnington. He exhibited a model galleon, exquisitely finished and a delight to the eye of both connoisseur and novice alike. The second prize went to Miss M. S. Cowper, a member of the staff of Fleetwood Works, for her crocheted luncheon set. The thirteen mats were of an unusual oblong design. Mr. A. E. Nash, of the Division Medical Department, won the third prize with his refreshing oil painting of a Japanese girl, and Mr. A. L. Price, an electrician in the Winnington Workshops, won fourth prize with



the mechanical toys that for many years past he has made from scrap for children in local hospitals. They were displayed on an endless belt and were arranged as the Cheshire Hunt in full cry.

## BILLINGHAM DIVISION

### Works Councillors' Tribute to Mr. Zealley

Mr. A. T. S. Zealley, the former Billingham Division chairman, was presented on 1st April with a memento of his association with the Works Council movement at Billingham since its inception in 1929. It took the form of a handsome silver tray, inscribed with the names of past and present Billingham works councillors.



Mr. Zealley (second from right) admires the tray presented to him by Billingham works councillors

Mr. R. Hannah made the presentation before a very large gathering of councillors. He stressed that this was only a very small token of their esteem for someone whom they regarded as one of their own, and one who had always had his work-peoples' welfare at heart.

Mr. Zealley, who said he was very moved by the presentation, thanked the councillors for what he described as a magnificent gift; it was something that would be valued by himself and by his wife and family—he mentioned that his son is working elsewhere in I.C.I.—for the rest of their lives. He was delighted at the numbers present and was specially glad to see some of those who had sat with him on the first Billingham councils.

No part of his work at Billingham had been so pleasant, Mr. Zealley concluded, and he was happy that, although now on the Main Board, he was not severing his connections with Billingham, where during a walk round the plants he always enjoyed finding plenty of friends and familiar faces.

### U.S. Scholarships won by Research Workers

Three Billingham representatives are among four I.C.I. scientists who will spend four months at the Massachusetts Institute of Technology, Boston, U.S.A., this summer. They are Dr. J. F. Brown and Dr. L. V. Johnson (Physical Chem-

mistry Research Group, Research Dept.) and Dr. A. J. P. Tucker (Engineering Research Group, Chief Engineer's Dept.). Four of these scholarships are open to competition among research workers throughout this country, and this year I.C.I. have swept the board, the fourth member of the party being Dr. A. J. Ellerman from Paints Division.

The scholarships are awarded under the Foreign Students Summer Project run by the Students Committee of the Institute. Competition is keen, and the numerous applications are considered by a committee organised by the American Embassy in London, comprising representatives of British university and industrial research bodies and American consular officials. This committee carries out the interviewing, and the final selection is made by the Institute in Boston. To qualify for the scholarships, which are open to non-Americans all over the world, applicants must have completed a total of three years' research work in university and industrial fields and must also be athletes. The aim of the Summer Project is to give the eighty scholarship winners a general picture of work similar to their own at present being undertaken in the United States.

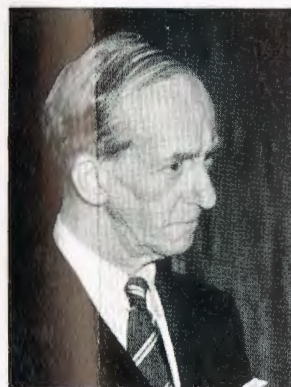
The course lasts from 2nd June to 12th September. Billingham men who have previously been on similar courses are Dr. A. C. Docherty of Oil Works (1949) and Dr. D. W. Ingram of Organic Research (1951).

## DYESTUFFS DIVISION

### Discoverer of 'Caledon' Jade Green Retires

Dr. R. Fraser-Thomson, who retired at the end of April, is one of the three Dyestuffs Division chemists responsible for the ingenious piece of research that led to the discovery of the dyestuff known as 'Caledon' Jade Green. The fastest and most lovely green yet made, 'Caledon' Jade Green played a very large part in the rebirth of British prestige in dyestuffs manufacture after the first world war, and ranks as one of the world's five greatest dyestuffs discoveries of recent years.

At the outbreak of World War I Dr. Fraser-Thomson was an 1851 Research Scholar at Cambridge University. In June 1915 he was the first chemist to join the late Sir James Morton of Morton Sundour Fabrics Ltd., Carlisle, in that firm's efforts to manufacture, themselves, the synthetic dyes on which their guaranteed fadeless fabrics were based. On the formation of Scottish Dyes Ltd. he became assistant chief chemist, and when in 1921 the company sought new headquarters at Grangemouth he remained as manager of the Carlisle factory until 1929, when he became research manager at Grangemouth Works. Since 1937 he has been at Division headquarters at Hexagon House, in the Miscellaneous Chemicals Service Department, and in the last few years has been chiefly associated with pest control products in liaison with Plant Protection Ltd.



Dr. Fraser-Thomson

Outside business hours Dr. Fraser-Thomson's chief interests are cricket and gardening. He is president of Cheshire Wayfarers Cricket Club and used to be a regular member of the Grangemouth Works team, which at that time often included himself and his three sons. His eldest son is with I.C.I. (India) and has taken a large part in rugby football and cricket in India. Dr. Fraser-Thomson is hoping to have another successful cricket season this year.

### Engineer flies Solo in Four Hours

A flying pupil at Greatham Airport, Co. Durham, set up a local record recently when he flew solo after only 4 hours 10 minutes dual instruction.



Mr. M. G. Satow

The pupil was Mr. M. G. Satow, lately works engineer of Nylon Works and now design manager for photographic products in the Division Engineering Department. "He was absolutely exceptional," his instructor said afterwards. "The usual time taken on instruction before flying solo is between eight and fifteen hours. Six hours is considered very good indeed, but this beats everything."

Mr. Satow was considered competent to fly solo after only 3½ hours' instruction; but he had to have a student pilot's licence and a medical examination, and before these could be arranged he had completed another forty minutes' flying.

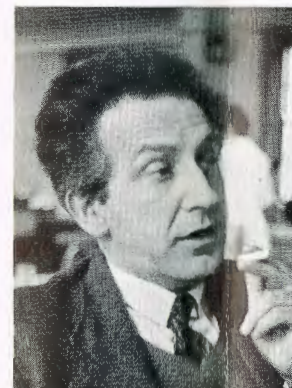
Mr. Satow is also a keen amateur racing motorist.

## GENERAL CHEMICALS DIVISION

### A Spare-time Author

The writing of books as a spare-time occupation (hobby is a term that to the writers themselves might perhaps have a slightly derogatory flavour!) seems to be less rare than might generally be supposed. We are reminded of this by the recent publication of another detective novel by Dr. D. W. F. Hardie of General Chemicals Division. *A Grave for Miss Carling* is the fourth of Dr. Hardie's very readable detective tales, in which, with Merseyside as the background, he has set a number of ingenious problems for two characters of his creation, a detective-inspector and a sergeant—most human (and not always infallible) members of the Liverpool City Police.

Dr. Hardie has won distinction by other literary works far removed from detective fiction. Several years ago the University of Wales published his *Handbook of Modern Breton*



Dr. D. W. F. Hardie

(the only book in English dealing with that language), which has been accepted as a standard textbook on the subject. To mark the centenary of chemical manufacture in Widnes two years ago he wrote his *History of the Chemical Industry in Widnes*, which has now found its way into most countries of the world. More recently he carried his historical researches into the life and work of Hamilton Young Castner, the results of which have been placed in the Research Department records of the General Chemicals Division. And this year he turned his attention to the important pioneering work in chemical manufacture done by George and Charles Macintosh more than a century ago, an investigation that he made in gathering material for his Hurter Memorial Lecture delivered to the Society of Chemical Industry in Liverpool a few months ago.

One feature is common to all Dr. Hardie's various writings—his passion for accuracy in detail. He takes equal pleasure in establishing the exact date of John Hutchison's arrival in Widnes, the precise methods employed by the police in crime detection, or the startling fact that the luxuriant crop of hair worn by the renowned Henry Deacon was in fact a wig!

### A Moving Event

During a week-end in March the Chief Engineer's Department had an unusual job to tackle: the removal of two aluminium storage tanks, each 15 ft. in diameter and 23 ft. deep and weighing over three tons, from Cassel Works at Billingham to Pilkington-Sullivan Works in Widnes.



Just clearing the trolley wires, the tanks pass through Rainhill on their way to Widnes

The handling of such large tanks was a job for specialists and it was entrusted to our steelwork contractors, Fleming Bros., who called in Pickfords to deal with the actual transportation. The two low-load road wagons were escorted throughout the 140-mile journey by police cars of the constabularies of the counties through which they travelled.

Apart from some slight trouble with overhead trolley-bus wires in Manchester and a little anxiety about head-room under a certain bridge the journey was made without incident, and the convoy arrived at its destination two and a half days after leaving Billingham. The trickiest part of the operation was still to come, for the tanks had to be lifted over two pipe bridges to reach their final destination. However, with the aid of a lorry-mounted Smiths crane equipped with a 75 ft. long jib, kindly loaned by Alkali Division, the tanks were swung safely over the bridges into their new berths.



## LIME DIVISION

*Blacksmith's Award removed from Secret List*

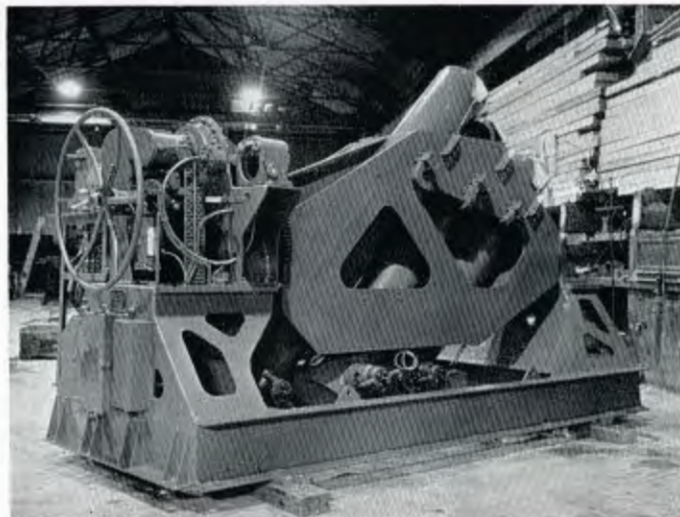
No citation appeared in the *London Gazette* when Mr. Samuel Tunnicliffe, then chargehand blacksmith at Buxton, was awarded the British Empire Medal in the New Year Honours List of 1948. Few people knew the reason for his award. Now that the Navy's powerful anti-submarine weapon, the "Squid," has been removed from the secret list, the story can be told.



Mr. S. Tunnicliffe

Far superior to the outmoded depth-charge projector, the "Squid" is a device mounted on the decks of destroyers and smaller craft which propels three charges ahead of the ship in a triangular pattern designed to straddle and destroy submarines.

During the war about 40 "Squids" were made by Lime Division Engineering Department at South Shops. After construction they were fired on a proofing range set up in one of the disused quarries near Buxton. Their construction presented many problems to the members of Engineering



One of Lime Division's "Squids": a wartime picture

Department—the welding, heat-treatment and electrical work were far from simple—and to Mr. Tunnicliffe in particular. Evidently the results were satisfactory, for the Division received a complimentary letter from the Admiralty, and Mr. Tunnicliffe his B.E.M.

Mr. Tunnicliffe, who retired in 1950, worked as a blacksmith for almost the whole of his 42 years with Lime Division. Now he runs his own small smithy, where he deals with many of the requirements of local farmers, from shoeing horses to mending ploughs.

## METALS DIVISION

*She beat the T.V. Panel*

The expert panel charged with guessing "What's my Line?" in the popular T.V. programme suffered a resounding defeat

on 7th April. This was not surprising, perhaps, for a more unusual occupation than a "bottom stopper" would be hard to find.

Given the explanation that it is something to do with making a zip fastener the mystery is soon solved, but of course the panel was kept firmly in the dark, and the challenger, Miss Maisie Fryer of Lightning Fasteners Ltd., Witton, now has a diploma testifying to her victory.

Miss Fryer thoroughly enjoyed meeting such famous T.V. personalities as Ronnie Waldman, Eamonn Andrews, Elizabeth Allan, Marghanita Laski, Jerry Desmond and the alarming Gilbert Harding. Her nervousness quickly disappeared in a pleasantly informal atmosphere, and she will long remember her introduction to Miss Jeanette Altwegg, the British and Olympic ice skating star, who appeared in the same programme.



Miss Maisie Fryer

*Sixty Happy Years*

1952 is a particularly important year for Metals Division pensioner Mr. H. A. Burn and his wife, for on 12th March they celebrated the diamond anniversary of their wedding.

Mr. Burn retired from the position of maintenance engineer at Landore Works twenty years ago, after adding 33½ years to his family's long history of service to the Company and its ancestor firms. His father was a millwright and pattern-maker at the Morfa Works of William Foster and Co. and his grandfather engineer in charge of the Middle Bank Works of Pascoe-Grenfell. This impressive record of family connections has not yet come to an end, for Mr. Burn's two sons (he has three daughters, too) are both on the engineering staff at the present Landore Works of the Metals Division.

Hale and hearty at the dignified age of "eighty-plus," Mr. and Mrs. Burn have reaped the benefit of early marriage in sixty happy years together. To the many congratulations they received on their anniversary are added the good wishes and affection of their many friends in the Division.



Sixty years married: Mr. and Mrs. H. A. Burn

## NOBEL DIVISION

*Harmonious Blacksmiths*

Blacksmiths, rightly or wrongly, are traditionally associated with song. Ardeer blacksmiths, at least, deserve this reputation. For the past eighteen years they have competed at their annual smoking concert for the anvil trophy. As time has passed the concert has become more elaborate, and for several years now it has been held in the main hall of Ardeer Recreation Club and wives have been invited.

This year's concert, varied and neatly topical, drew a large audience. Nine competitors entered for the Anvil Trophy, and in the end it was awarded to Mr. David Coleman for a light-hearted character study. Second prize winner was Mr. Willie



The Ardeer blacksmiths who competed for the Anvil Trophy

Craig, who has a fine tenor voice, and third came Mr. Alex McCallum, who knows well how to use his pleasant baritone.

The prizes were presented by Mr. H. S. Sayles, works engineer at Ardeer.

*Ladies' Hockey Success*

On Saturday, 26th April, Ardeer ladies' first XI did exactly what was needed to make the 1951-2 hockey season the most successful in a long history of successes. Throughout the entire year, playing among the best teams in the south-west of Scotland, the Ardeer ladies' first XI lost only one match. A few were drawn but the very great majority were won, and won handsomely.

Play of this quality creates official interest, and when the Scottish Women's Hockey Tournament was held at St. Andrews five of the Ardeer team were invited to take part. Although none ultimately found a place in the international side, there are hopes that next year the luck will be a little better. The end-of-the-season Saturday was a triumph. On Ardeer recreation ground hockey XIs from the Scottish south-west district joined in the annual end-of-season tournament. Twenty-one teams competed. When all the matches were over and the Ardeer XI won the cup, they had not lost one match of the nine they had played during the afternoon. Indeed, they had not lost a goal. Our picture shows the players



The ladies' hockey team from Ardeer which won the Scottish south-west district cup

fresh and bright with their trophy, which will be retained for a year. Last year the ladies shared the trophy with another club; this time they won it outright.

## PAINTS DIVISION

*Only Three Came Back*

On 26th April, when 100 survivors of the garrison of Kut-al-Amara dined in London to mark the 36th anniversary of the famous siege and surrender, the only representative of the Royal Navy present was Mr. L. J. Matthews, of Slough Engineers Department. Of the fifty sailors who endured the siege with General Townshend's troops only three survived the horrors of captivity, and Mr. Matthews was the only one of that trio able to attend the dinner.

Rolling home from a China commission in 1914, Able Seaman Jack Matthews was one of the crew of H.M.S. *Clio* who answered the call for naval volunteers to support General Townshend's attempt to push up the river Tigris and capture Baghdad. He and his shipmates manned the armed launch H.M.S. *Sumana*, which fought its way up the hostile river to play a gallant part in the disastrous battle of Ctesiphon.

After a fighting retreat of 90 miles, General Townshend decided to make a stand in the Arab town of Kut. He sent all his shipping except the little *Sumana* down river to safety and shut himself up in Kut with 11,600 British and Indian troops, 50 sailors and 43 guns. After five months of siege warfare they were starved into surrender by the investing Turkish army.

The haggard remnants of the garrison were then marched across the wastes of Mesopotamia under a scorching sun, being herded along with whips by a brutal escort of Arab



Mr. L. J. Matthews



conscripts. Of the 2600 British soldiers and sailors taken prisoner in Kut, 70% died in captivity.

Jack Matthews says of that infamous march:

"I stuck it because once you fell out of the ragged column you'd had it. I spent two years making roads up to the Russian front in the Caucasus. At the end of the war I was sent down to Istanbul for repatriation and invalided out of the service."

Today Jack Matthews is an alert and active 61. He joined Naylor Brothers in 1922, and next year he will be receiving his Long Service Award for 30 years with the Company. His two sons followed him into the Navy, and one has just returned from Korea.

## PLASTICS DIVISION

### How do you View?

To what extent is television affecting the nation's eyesight? Mr. J. L. H. Moss (Fabrications Division, Research Dept.)



Mr. J. L. H. Moss

recently made a study of this question in his spare time. On 24th April he took it as his subject when he delivered the 24th Ettles Memorial Lecture to the Southern Optical Congress at Bournemouth.

Before the Congress the Association of Optical Practitioners had submitted a questionnaire to opticians in reception areas served by the television transmitters at Alexandra Palace, Sutton Coldfield and Holme Moss.

Almost without exception the opticians reported that they had received complaints from their patients of eye discomfort in some way associated with televiewing. From an analysis of the answers it seems likely that up to one-half of the televiewing public may associate symptoms of eyestrain with the use of television. It would be a mistake, however, to blame television for the symptoms.

"A person may have a minor visual defect," said Mr. Moss, "but for normal occupations he gets along without noticing it. He may not be a great reader or very enthusiastic about the cinema. Then he acquires a television set and spends hours concentrating on a small screen. The eyes become tired, and he may find that he needs spectacles; but he might have needed them equally if he had suddenly developed a keen interest in books or started going to the cinema every night. Television did not cause the trouble; it drew attention to a small visual error which existed already and required correction."

Other points made by Mr. Moss were:

It is inadvisable to look at television in a darkened room; greater comfort for the eyes will be obtained in a reasonably illuminated room, with light either above or behind the viewer.

The ideal viewing position is directly in front of the screen, looking slightly down.

The ideal viewing distance is for the viewer to be approximately eight times the diameter of the cathode-ray tube away from the screen—say 6-10 ft.

Television sets in which there is a light-coloured surround to the screen aid visual comfort.

Magnifying lenses, although advantageous with small screens, tend to limit the viewing angle.

The use of filters or black screens is helpful in removing distracting reflections from the surface of the screen and improves the contrast of the picture when room lighting is used.

The research also showed that most of the complaints come from televiewers over 45 years of age, who are the first to experience difficulty, and that 65% of televiewers are probably using their sets under conditions which could be improved if more attention were paid to lighting, viewing distance, and the proper adjustment of brightness control.

Mr. Moss is a Fellow of the British Optical Association, a Fellow of the Illuminating Engineers Society and a Fellow of the Worshipful Company of Spectacle Makers (Honours). His interest in television began when he was working with the Plastics Division Optical Development Department at The Hall, Welwyn.

## SALT DIVISION

### B.B.C. Broadcast from Brine Shaft

Salt Division's Stoke Works were "on the air" on Saturday evening, 3rd May, when the B.B.C. *In Town Tonight* programme included a broadcast from a brine well at "a large salt works near Bromsgrove in Worcestershire." The commentator, Mr. Brian Johnston, sat in a bosun's chair which was lowered down the shaft to within forty feet of the brine level, and from this precarious position discussed the production and uses of salt with Mr. A. R. Farmer, engineering foreman responsible for the brine pits. From the depths of the shaft the effects microphone picked up vividly the trickling sound of brine in the well and the working of the pumps.

This is the third time a broadcast has been made from Stoke Works. The first was in 1943, when in a short recorded broadcast an old saltmaker and a young one compared experiences. The second broadcast, a "live" one made in 1948, was a thirty-minute programme of interviews with the management, foremen and workers at Stoke.



Mr. Farmer and Mr. Johnston emerge from the brine-shaft after the broadcast

## WILTON WORKS

### Tees-side Motorists form Association

The I.C.I. Tees-side Motoring Association, which issued a challenge to other Divisions in last month's "Editor's Post Bag," is a new but a flourishing body.

The idea started when the Wilton Motoring Club, formed in 1950, began inviting members of the Billingham Synthonia Recreation Club to take part in their events. Synthonia motorists became so enthusiastic that they decided to re-form the motoring club at Billingham.

The two clubs applied together for affiliation to the Auto Cycle Union and at the same time decided that there was everything in favour of forming a joint association. And so the I.C.I.T.M.A. came into being.

The joint membership is now over 200. The two clubs retain their separate identities in matters of finance and membership, but in matters of policy and affiliation they act as an association.

The Association is looking forward to competing in events with other Divisions. Its own programme for the remainder of the year includes a gymkhana, road reliability competitions, a night trial and a Christmas social run.

## A.E. & C.I.

### Moving Day in Johannesburg

The company's registered office has for many years been at 14 Holland Street, Johannesburg, but there have always been half a dozen A.E. & C.I. head office departments located in as many separate office buildings throughout the city. Recently it was decided to bring all the departments and the registered office under one roof.



A.E. & C.I.'s new home in Johannesburg: the Anglo-American Corporation building

Accommodation was found in the handsome new building of the Anglo-American Corporation at 40 Fox Street. The move (not without its trials, since part of it was carried out on Johannesburg's hottest day for twenty-five years) has now been completed.

## I.C.I. (CHINA)

### Sporting Events v. Shell

For some time the recreation club of I.C.I. (China) at Hong Kong has been engaged in a series of sporting events



The I.C.I. (China) miniature soccer team which recently defeated a Shell team at Hong Kong. Left to right: C. P. Tang, P. P. Pereira, Y. Y. Kuo, Y. Z. Wang, J. W. W. Boyd, C. F. Ng, S. Allen, S. K. Wong and P. C. Lay.

against the Asiatic Petroleum Co. (South China), the local company of the Shell Petroleum Co. At the moment Shell are winning by three events to one, having defeated I.C.I. teams at table tennis, hockey and bridge. Recently an I.C.I. (China) nine-man soccer team beat a Shell side by three goals to two, and I.C.I. (China) now hope to win the remaining events in the series.

## I.C.I. (INDIA)

### Board Changes

Mr. J. McIntyre retired from the board of Imperial Chemical Industries (India) Ltd. on 31st March after 21 years' service. His detailed knowledge of tropical agriculture will not, however, be lost to I.C.I., for he has joined the staff of Plant Protection Ltd. at Fernhurst.

After a year on the staff of Jealott's Hill Research Station Mr. McIntyre sailed for India in March 1931, where for the early years of his service he was responsible for fertilizer development and propaganda in Bihar, with his headquarters at Patna. He had an exciting experience during the disastrous Bihar earthquake of January 1934, as he was on tour in the area which was generally accepted as being the epicentre of the disturbances.

When the last war started he was transferred to the Calcutta office. There he was in charge of distribution until the war situation made it advisable to disperse staff and stocks. He then returned with the nucleus of the Divisional office to Patna, where he remained until conditions became more normal in Calcutta.

In 1944, when the International Emergency Food Council in Washington decided to apportion the available supplies of nitrogenous fertilizers among consuming countries, Mr. McIntyre's services were specifically requested by the Government of India. He was seconded to them until his appointment to the board of I.C.I. (India) Ltd. on 1st July, 1946. For his work with the Indian Government he was awarded the O.B.E.

Mr. D. B. Marsland and Mr. G. Wilkinson have been appointed to the board of I.C.I. (India) Ltd. Mr. Marsland has been chief accountant since 1946 and is succeeded in that appointment by his former deputy, Mr. H. M. Molesworth.



Mr. Wilkinson will continue to act as secretary, an appointment he has held since 1937.

### I.C.I. (MALAYA)

#### Presentation of Long Service Awards

During a short visit to Malaya in March Mr. R. C. Todhunter, joint Overseas Director of I.C.I., presented Long Service Awards to eight members of the staff of I.C.I. (Malaya).

The presentations took place at a tea party given at the



The recipients of the Long Service Awards, with Mr. Todhunter (right) and Mr. M. F. Cutler, chairman of I.C.I. (Malaya)

Raffles Hotel, Singapore, to 175 staff members and their wives. The recipients of the Long Service Awards have served for a total of 163 years.

### I.C.I. (PAKISTAN)

#### Chairman Appointed

Mr. W. E. Wilkie-Brown has been appointed chairman of the new company, Imperial Chemical Industries (Pakistan) Ltd., which has been formed to look after I.C.I. interests in Pakistan and which will shortly be taking over there from I.C.I. (Export) Ltd. Mr. Wilkie-Brown has resigned from the board of I.C.I. (India) Ltd. on taking up his new appointment.

Mr. J. W. Simpson, formerly of I.C.I. (India) Ltd., has also been appointed to the board of the new company.

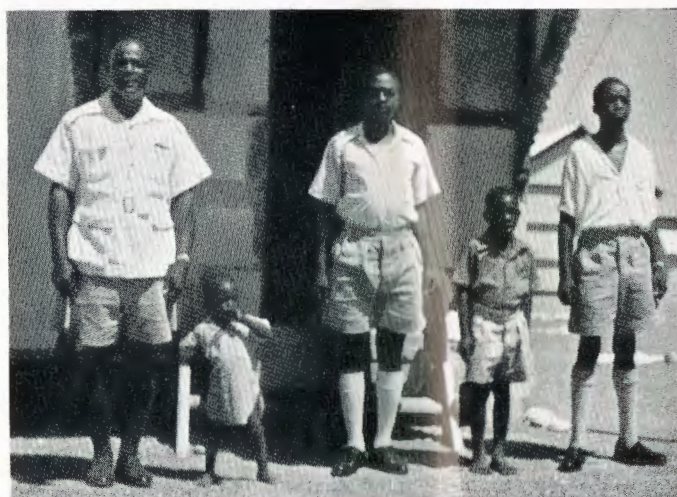
### MAGADI SODA COMPANY

#### Mr. Stephen Odera

Having given more than 30 years' service Mr. Stephen Odera, the head camp orderly at Magadi, died in a Nairobi hospital on 10th April after a period of reduced health. By his death the company has lost the services of an African whom it will be difficult to replace.

Mr. Odera joined the Company as a labourer in 1921 in the days when the soda was excavated from the lake by means of picks and crowbars. He was soon transferred to the Labour Department, where he became the first African to be employed

as a clerk at Magadi. His outstanding ability gained him promotion to head camp orderly in 1924, a position he held until his death.



Stephen Odera (left) with some of his family

Stephen, as he was known to everyone, took a keen and active interest in Christian affairs and was admitted a lay reader by the Bishop of Mombasa in 1946. Well loved and respected by all communities, there was no one who would not refer to him for advice or for the solution of problems; his knowledge of seven of the languages, including English and Swahili, spoken at Magadi was always most valuable.

At the request of his numerous friends his body was brought to Magadi, and when Africans, Asians and Europeans had paid their last respects it was taken by road the same night to Yala, over 300 miles away, for burial in the grounds of his old home near the shore of Lake Victoria.

Stephen is survived by his widow, three sons, three daughters, and several grandchildren.

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### OUR NEXT ISSUE

Mr. R. A. Walmesley, who runs the Dyestuffs Division penicillin plant, gives us in July an absorbing account of the dramatic part played by I.C.I. during the war when a rush job was on to bring penicillin from the laboratory stage into commercial production. This story has never been told in print before, and Mr. Walmesley recalls how thousands of milk bottles were mobilised in the early days of what is called "surface culture" production of penicillin.

Our colour article describes the international musical Eisteddfod which takes place at Llangollen in North Wales next month. The author, Mr. A. Longley of Alkali Division, was employed there last year as an interpreter. He has drawn for the *Magazine* some attractive sketches of the many European folk-dancers who competed in their national costumes.

From Metals Division Mr. I. Lindsay Forster describes a hobby both lucrative and fascinating—junk-hunting. Readers will be amazed at the low prices he has paid for genuine Victorian and Georgian relics. Our final article is by Mr. R. J. W. Reynolds of Dyestuffs Division. He tells of a little difficulty which he got into in the United States of America.

# A Gourmet at Large

By A. S. Irvine (Alkali Division)

Illustrated by Winslade

*Living well is the hobby of 16-stone "Ivy" Irvine. He does it today in spite of the Chancellor of the Exchequer; and he did it in the past, whether on an arctic expedition to Spitsbergen or in the Salt Range of northern India.*

PERHAPS my thoughts were first turned to cooking as a practical and advantageous hobby when, at the age of 22, I found myself, thirteen stone-odd of husky appetite, faced with the prospect of three months' hard labour on compressed rations that weighed only 26 oz. for a day's sustenance—hardly more than a couple of gulps to a hungry man. To elaborate: there were four of us, led by a young and enthusiastic geologist (now a young and enthusiastic bishop) dumped down on the north coast of Spitsbergen—a bare

700 miles from the North Pole itself—with orders to cross an ice-cap about the size and shape of Northumberland and Durham, to survey it, and to bring back specimens of everything we saw, from fleas to lumps of granite. The ship would call for us in about three month's time—that is, if it didn't get stuck in the ice on the way—at the base hut some hundred miles to the south of us over the icecap. Good-bye and hope you have a nice time.

All we knew was that some years previously a German expedition had tried to cross the icecap and had vanished without trace. All that I knew was that I was desperately hungry.

I had signed on as camp assistant, which meant being a sort of explorer's labourer. I had to cook, hunt, clean up and be generally useful, while the geologists geologised and the surveyor surveyed. In the end I had as well to work the portable wireless transmitter (being a chemist) and help the surveyor (being no good at mathematics). Fortunately the surveyor—a charming Canadian sapper—was an expert cook; and that's how it all started.

We eagerly drew up a menu for our rations and found that we could obtain excellent variety by having porridge and pemmican for breakfast and pemmican and porridge for supper. Lunch was some 4 oz. of chocolate with biscuits (except



... spotted dog, delicately tinted with red and white bands

that they forgot to send any real biscuits) and  $\frac{1}{2}$  lb. of margarine—with a tablespoonful of cod-liver oil thrown in for good measure. However, I had a 0.22 in. automatic rifle—hardly big enough for seal (but there weren't any just then) but quite big enough to bowl over one or two of the geese that nested in thousands on the ice-free coastal plain.

Our first serious shortage was tea: how was one pound to last four men twelve weeks? A matter simply overcome. The tea was poured out on to a clean cloth and quartered, and each quarter was divided

into three. These twelfths were then done up in little canvas specimen bags and one was issued each week, on Sunday. The ritual was simple: the bag was dipped in a pan of boiling snow and swizzled round till the colour matched my belt. It was then squeezed dry and replaced in the orderly box. Towards the end of the week it took a good deal of patience to achieve the desired infusion, and even then it tasted mainly of canvas, a shortcoming quickly remedied by adding copious quantities of concentrated lemon juice (which supplied our vitamin C) and, *quant. suff.*, the alcohol that we had for preserving unusual specimens—which, after all, we were.

A brave experiment was Svalbard Scones, invented by the talented and ingenious leader of another sledging party. They had located a forward dump a day or two before us and had obligingly skied back a handful of miles to leave us a message about a short cut to it. And tacked to the message was (happy thought!) a recipe for this luscious confection.

It was not long before we had located the dump and, beside it, an old camp site of the other party. On it were traces that puzzled us until another message was opened that ran:

From OC B Party to OC A Party. Subject. Svalbard Scones. Message begins. Ref. Svalbard Scones. When finally cooked, pause and admire. Do not eat: we have all been sick. Message ends.





... They all go back to jail tonight

Then came the great moment. After a panic diversion from a short cut down a valley that was only a valley in name we climbed painfully back over a shoulder, and in the reddening rays of the midnight sun the waters of Icefjord gleamed blue below us. And three hours later the base party came running out to welcome us. And what a feast there was! Someone had shot a reindeer and a couple of haunches were left; a prudent and great-hearted Scotsman had reserved a bottle of Glenlivet for just such an occasion; fifteen tins of tomatoes remained; a *terriner* of the veritable foie-gras of Strasbourg was still unopened; and, to cap it all, the relief ship was due the very next day. So down the hatches went all the surplus provisions.

Early next morning I got up—we still slept in our arctic tent rather than in the dubious salubrity of the cockloft—and I looked in at the base hut to see what was cooking. I was met by a dismal slab of wireless operator's face trimmed with a nanny-goat beard in maple-tree russet. "I've just had a message from the *Isbjorn*," said Johnny. "They're stuck in the ice and won't be with us until Tuesday fortnight." From that moment my serious gastronomic interest was really aroused.

A council of war was hastily called, but Herby, my chief surveyor, and I, with the suspicion that men of action have for mere planners, poked our noses into the kitchen. And what a sight it was—a couple of primuses and some empty tins on a bit of clean bench. Behind, the stove, sacks of flour, strings of sprouting onions and non-tinned stuff of all sorts, quite untouched. No meat, of course; but there were seals aplenty, and I had at the base a 0.318 in. H.V. rifle with which in those days I could knock the guts out of a petrol tin at twenty yards. So we returned to the council of war and offered our services as caterers. "You *want* to cook? Good God!" "But the stove doesn't work." "We're damned if we'll live on porridge and pemmican." "Well, for crying out loud, let 'em if they want to!" And so on and so forth.

Finally it was agreed that we had sole rights to the kitchen—which occupied half the hut—and no one was to come in except by invitation. Ugly chores such as washing up [*sic*] and collecting driftwood and seaweed were to be a communal responsibility.

The problem was—what were we going to cook? *Lob*

*scouse* we had learned to love on our outward trip, but all we could gather of the recipe from the swarthy little Lap in the galley was that it was "pretty damn goot." Seals were relatively easy—in fact one had just been skinned and deblubbered and was now stewing gently in an enormous pot; seaweed had been gathered and washed for greens, and ample potatoes were peeled. All set for supper—but what about bread? Biscuits (*our* biscuits) were finished and flapjacks out of favour. Then, smiling through his well-combed black Imperial, Herby, with a gesture that would have done credit to Mrs. Robinson when rescuing the rest of her Swiss Family from some dire shortage, delved into his ditty-bag and produced a bottle of dried yeast.

Faces were long and anxious while a portion was wetted out with sugar and water, but smiles broke out when the first few bubbles detached themselves and broke surface: we promised two large loaves a day until the flour ran out.

Part of our treasure-trove was a huge dough-bucket, and the mixture was left overnight in it to rise in the warmth of the kitchen. Next morning, as I crawled out of my sleeping bag on the floor of the kitchen, I saw to my delight that the risen dough was lipping over the top of the bucket. And how crisp and delicious the loaves were—the first we had eaten for nearly three months.

From loaves we progressed to experimental plum duffs boiled in an old flour-bag. Then, on a Sunday, we desired to feast our little playfellows, so we constructed enough duff for a score or so really hungry people. Then came the question—what shall we cook it in? Humming and hawing and turning over flour-bags . . . then inspiration: "Herby, what did you do with that old rugger vest we used to clean the stove with? Well, let's rescue it and use the sleeves—they're still fairly sound." And use the sleeves we did, and excellently they served. When they were peeled off, what a treasure was revealed! Never were such admirable expanses of spotted dog beheld, before or since; never was a chef's masterpiece more eagerly devoured; and never, not even at the Ritz, has spotted dog appeared delicately tinted with the alternate red and white bands that are the colours of the Royal Military College of Kingston, Ontario.

Sad to say, one day the raucous shriek of the *Isbjorn*'s hooter sent a thousand gulls wheeling and screaming off the clear green waters of Icefjord and eighteen bearded ruffians tumbling out of hut and tent to man the boats and shout welcome to the sailors. Then the—to me—rather sad trip home to civilisation and normality . . . and the necessity of trying to get a reasonable degree.

Came the degree (of a sort) and came the necessity for earning a living, and with it the refining influence of the life of a great Division. Gone were the days when, with reddened hands, the liver of a fresh-killed seal was ripped out and flung into the pan for a favoured few; gone were the days when nearly a score of ptarmigan were cooked in a patent steamer, four tiers high, that rocked and quivered like the Tower of Pisa in a hailstorm. Came instead a dilettante period when omelettes were concocted in the tiny kitchen of a "Gin-and-Lime Tree Cottage" and experiments with Rook's breasts and curious soups gave expression to the hankering after organic

chemistry that had marked my university career and had been stifled by the extraordinary fact that the Alkali Division made alkali—a thoroughly *inorganic* pursuit.

The shadow of war then intervened. The scurry of the next three years left little that could be gastronomically memorable except (in the reverse sense) Home Guard tea. This, as many know, arrived from the canteen at 22.00 hours as a large two-gallon jug with the night's ration of tea, sugar and condensed milk mixed to a stiff paste in the bottom. To this, with solemn ritual, two gallons of water—often very hot—was added, and the whole was stirred with the duty bayonet. The jug then stood on the stove and the incoming pickets topped it up with hot water as they drew off their mugfuls. And in the morning? It was still brown and, though slightly oily, did at least not taste of canvas!

Then came a break—a job overseas in the Punjab—"Shouldn't be more than six months. Can you leave by the end of November?" Of course the answer was yes—optimistically. That was in October 1941; a year later I was still hoping to get my travelling instructions. That year held nothing of great gastronomic interest for me except possibly the knack of avoiding the usual bitterness when roasting moorhen and a beautifully cooked codling that had been shot with a twelve-bore in the Fleetwood sea-water reservoir. Then the call came, and in due course we embarked for the glamorous East from Leven, near Edinburgh.

Then (six months later) Khewra, with my own cook, three thousand years and more of civilisation behind him, and three years of my six months' tour yet to run. I had just to clap my hands and all the luscious maidens of the "thousand nights and one night" would bear humbly to me dishes of indescribable dainties and bowls of the rarest sweetmeats, calling me "Protector of the poor" and fluttering their kohled eyelashes at me from behind the protection of their tiny hennaed fingers. In actual fact, at the fortieth clap Ja'afar Shah shambled in with a dish of "brown stew," to be followed by treacle pudding.

Very soon, however, my cook and I understood one another. Ja'afar Shah never understood either. But he was none the worse for that, and I wish him well if this ever comes his way.



... when six sheep were taken into servants' quarters, I got puzzled

Many meals were memorable; one particularly with the local inspector of police of the nearby town of Pind Dadan Khan. It was a hot night, and we, the menfolk, dined in the courtyard, while the womenfolk were shooed off to dine on the roof with the mistress of the house. I do not know how they fared, but there was a lot of giggling going on up aloft. I know how *we* fared, and splendidly well it was—two of the gastronomic highlights being first to find out how well sour curds went with curries, and secondly how nice carrots could be, dished up as a sweet all covered with silver foil as fine as tissue paper. As we stuffed ourselves and, in defiance of the Prophet, drank our whisky pegs, inscrutable orientals stood behind each chair, fanning our heated brows with long leather fans. Seeing this great body of servants and knowing what a police inspector was paid I offered to swap jobs, as obviously my host was doing much better than a mere works manager. "Oh, these," the Inspector replied lightly. "They all go back to jail tonight."

Another time the son of the local coalmine owner wished to do honour to the Commissioner whose tour had brought him to Khewra, so we were bidden to a point on the river Jhelum some dozen miles above Pind Dadan Khan. Here an enormous dumb-barge awaited our pleasure—but a barge with a difference!

From one end came the eager chatter of womenfolk and the smell of cooking, while in the huge open centre was spread a Bokhara carpet dotted with chairs, cushions and peg tables. Behind were six figures, muffled against the chill of the evening, all standing by one enormous steering oar. A word and we were off; and what a perfect evening it turned out: no moon, but a myriad stars—the sort of night sky the films call tropical, and the sort that is so rare in the tropics. And the food—ah, the food! Sixteen great dishes for each to choose from, to blend the flavours to his skill and taste. Mounds of pappadums—those spicy biscuits—to crumble up as seasoning; plates of Bombay duck; chutneys and curries past reason; *samosas* (pastry turnovers with delicious vegetable curry inside) and *gulab jaman* to finish up with, sweet and sticky beyond belief. And, withal, high and philosophic conversation, ranging from mythology to the Chinese language, from Vishnu to the hundred homophones of *Ho*.

And last but not least, VJ. The firm had had its celebrations; sweetmeats had been handed out to all and sundry; but nobody had done anything for the Bungalow servants. Fine, we'd have a party. "Ghulam Hussain! *Bunderbust Karo* . . . of course you can invite your friends." So all was laid on. My office boy was sent hotfoot into the hills, for he knew a village where they had a band; he came back with two. Cauldrons were borrowed which appalled me by their size. Finally, when I saw no fewer than six sheep being taken into the servants' quarters to be cooked I got puzzled. "Ghulam Hussain, how many friends are you inviting?" "Only about 120, sahib!"

And they came and scoffed the lot. Never had my cook made such a wonderful *irani pilau*; never had so many almonds and raisins been cooked with so much rice; never had the smell of cardamoms wafted so subtly on the evening breeze; never had my garden resounded to such solid munching.

And never have I had so large a bill.





*"Haytime on Tees-side"*

*Photo by G. W. Harbron (Billingham Division)*



# The Editor's Postbag

*Readers are asked to help make a success of this Correspondence Supplement and send letters for publication to the Editor before the 15th of the month. Letters should be of general interest, non-political, and as brief as possible. They should not deal with subjects for which there is special machinery for dealing elsewhere, such as trade union matters or matters which should properly be dealt with in Works Council.*

## Should Our Typists Visit Overseas Companies?

Sir,

Recently I read a book entitled *Victoria Australia: State of the Golden Future*, delineating the marvellous opportunities which exist there for people from all walks of life, both skilled and unskilled. Apart from explaining the many different industries to be found in the cities, or the life of the farmers in those vast open spaces so typical of Australia, the book contains illustrations of Australian scenery and many of the very modern and beautiful buildings. This pictorial record of Australia's resources and development is altogether an extremely interesting and, for me, an enticing booklet.

As a result of reading this, I wondered if it would be possible to arrange for an exchange to be made between typists of I.C.I. England and typists of one of the many branches of I.C.I. overseas, for example I.C.I. Australia and New Zealand, for a certain period of time—say two or three years. This would not only be beneficial to I.C.I. and (if carried out on a large scale) to Great Britain in that it would promote better and more intimate understanding among the peoples of the Commonwealth, but also to the girls concerned, who would probably not otherwise have the chance of experiencing the pleasure of travel and widening their outlook on life.

I understand that other firms have done this, and it is also a well-known scheme in the teaching profession. What do other readers think of this?

ELLEN JACOBUS

Birmingham Area Office

### Bellringers at the Ready

Sir,

The caption to the photograph on page 143 of the *Magazine* (May issue) reads "Bellringers 'at the ready'."

I am no campanologist, but I would like to ask: "at the ready" for what? As far as I can see they are "at the ready" for a good ticking off from their captain. Three ringers are at their ropes' end (hence in the process of sounding three bells simultaneously). One has his sally in his hand (another bell also sounding), while the fifth man is about to sound his bell.

I can only conclude that at the instant the photographer did his stuff the captain was so exasperated that he conveyed a mistaken (and un-Christian?) idea to the photographer which amidst the clash and clamour was misunderstood!

JOHN E. HARVEY

Plastics Division Research Department  
Welwyn Garden City

### Fill the Empire by Emigration

Sir,

I agree with your correspondent. If it is necessary for our cousins in the British Isles to emigrate, it is better for them to do so by families and complete factory groups. They should take with them everything but the kitchen sink—sectional houses, schools, stores and factory buildings; machinery and power plants too. It would be better to leave the planning to industry. Close liaison is very necessary—there should be committees on both sides of the world. Such a move requires skilful organisation.

I think it essential for large family groups to emigrate. The new country soon absorbs the younger elements. The people in the age-group above 30 find it hard to make new friends and pick up fresh customs.

I have known some extreme cases of loneliness, particularly among the women immigrants. The larger the city they come from, the more difficult they find it to get used to our life. In some extreme cases only a brief return home has saved them from a nervous breakdown.

If the older people arrive with plenty of friends and relatives around them they will be much happier and such distressing cases are not likely to arise.

P. O. SPICER

I.C.I.A.N.Z., Melbourne

### Aid for those in Need

Sir,

I wish to clear up any misunderstanding there may have been in my letter to your March Postbag. I made reference to *Part 3 accommodation*. This is hostel accommodation, not houses for the aged. Mr. Palacio should go along to his local welfare services officer, and he would find out that the local government body cannot deal with all the cases they get, and a good many do not come until (1) the hospital almoner sends them, (2) the local doctor recommends them to go, or (3) the old people unable to get along in lodgings or with relations are compelled to seek help.

Old persons' flats have been built all over the country. I have recently inspected some of the finest in the



country mixed in with accommodation for young people; these are all right for elderly married couples. The increased cost of living makes life for some old people very hard, so if we can provide homes free from worry we may make a small contribution to solving this problem. I could name lots of voluntary societies who are doing this work. Subsidies do not remove mental strain and worry.

A. W. FOSTER

Ex Works Councillor  
Marston Excelsior  
Leeds

### England—that Forgotten Word

Sir,

A correspondent in your May issue complains that the English are scarcely allowed to mention the name of their country.

I cannot speak for our other Celtic neighbours, but as regards Scotland I see no grounds for his complaint. For instance, I would mention that celebrated poem "England, My England" in which the word "England" occurs often enough to satisfy even Mr. Churchill. This poem was first printed (and paid for!) in a Scottish magazine, in Edinburgh. I doubt very much if a similar effusion interlarded with the word "Scotland" would be accepted for publication by any Fleet Street editor.

WILLIAM DUMBRECK

Ardeer Factory  
Nobel Division

Sir,

We, a small and isolated band of English nationalists, wish to compliment Mr. L. T. Butt of Dyestuffs Division most wholeheartedly for his forthright call to the national conscience of Englishmen. May we also add our respect for the moral courage of the Editor in publishing his letter, knowing well, as he must, the barrage of criticism that must come from higher and Celtic quarters.

Is there to be no end to this continual trampling down of the English way of life, of its infection by Celtic manners, and to the horrible and unifying implications of the term "Briton"? Were not the Britons savages, pushed back to their mountain wastes by the influx of the more civilised Angles and Saxons?

Can we not make some call upon our poets and writers? The Scotch pipers play "Scotland the Brave" as they march into barracks, the Welsh never cease to rhapsodise in songs over their country. What have we? Even "Rule, Britannia" overlooks the essential fact of *England*. Why should we alone, as Mr. Butt quotes, be expected to subscribe to this self-denying ordinance? Once again let us flaunt the name of England "in the face of the whole world like a banner." Let us show the Scotch that we too were equal signatories to the Treaty of Union of 1707. Who are they to be composing music under such titles as "Lament for the Union"?

In every English town and city there is a Scotch or Welsh society insidiously exhaling its own Celtic breath on the once pure English air. Let us have our St. George societies. May we therefore crave the indulgence of your columns to request Mr. Butt to do us the honour of becoming an honorary president of our small, but united and determined Dumfries factory group.

P. HANDY (Capt.)

Dumfries Factory  
Nobel Division

### Cafeteria Canteen

Sir,

There has been announced a rise in the price of meals served in all I.C.I. canteens. Along with others I have been struck by the new charge of 2½d. for service and bread. There must be many like myself who, if given the chance, would prefer to dispense with this commodity and collect their own lunch from the counter. The time which would be saved by the introduction of a cafeteria system could be put to good use by those who often have to do their shopping in the midday break.

I hope you will allow me to raise this matter in your columns, as I belong to that large section of the firm's employees—staff—who are not represented on Works Council and who have no other means of making their views known on topics of this kind.

D. A. REILLY

Analytical Department  
Dyestuffs Division  
Blackley

### Purple Mist

Sir,

No! No! *Please*—no!

By all means let us have the delights of the pawky (or porky) humour of "In Praise of Bulk," the inspired lunacy of a Leacock, or the brilliant banalities of a Belloc, but no—please no—not the completely humourless meanderings such as "The Fable of the Purple Mist" (April issue).

Surely this must have been published to raise doubts of our sanity or of our sense of humour. Imagine the stark horror occasioned to one bred on Benchley and reared on Rabelais and Runyon on ploughing through the inanities of "Purple Mist" to find that, despite an introduction promising a "fast-moving, humorous hodge-podge," one's sense of humour is apparently so atrophied that it will not raise even a single subconscious giggle.

We try to console ourselves with thoughts that the article has been published to swell the editorial post-bag with enraged epistles signed "Demented Mother of Ten," or to promulgate a new art-form as remote from the public mind as are the more "advanced" doodles of the undoubtedly brilliant Picasso—forms to be praised only by the "experts" and critics who dare to admit to not understanding them. (I am *not* anti-Picasso. On the contrary I even have on my walls a reproduction of a "blue" period Picasso which evinces surprised pleasure from friends and fellow art-illiterates.) A third thought occurs—can it be a result of the conducting of an experiment in the laws of probability on the lines of the much-quoted "six monkeys typing madly for ever would ultimately produce a Shakespearean sonnet"? If this last, it appears the typists stopped several thousand years too early.

And what a vehicle the Fable was for the divine idiocy of Hewison's drawings!

My colleagues and I are greatly exercised as to the validity of our individual and collective sense of humour. Please, oh please, reassure us.

PURPLE-XED

Lostock Works  
Alkali Division